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SIXTY-THIRD ANNUAL REPORT
DIRECTOR OF PUBLIC HEALTH

OF THE

UNITED PROVINCES OF AGRA AND OUDH
FOR THE YEAR ENDING DECEMBER 31, 1930

AND THE

THIRTY-SIXTH REPORT

OF THE

SUPDG. ENGINEER, PUBLIC HEALTH DEPARTMENT,
FOR THE YEAR ENDING MARCH 31, 1931



ALLAHABAD :

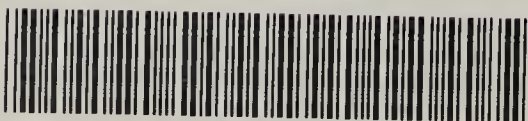
THE SUPERINTENDENT, GOVERNMENT PRESS, UNITED PROVINCES

1931

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SIXTY-THIRD ANNUAL REPORT
OF THE
DIRECTOR OF PUBLIC HEALTH
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FOR THE YEAR ENDING DECEMBER 31, 1930
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FOR THE YEAR ENDING MARCH 31, 1931



ALLAHABAD :
THE SUPERINTENDENT, GOVERNMENT PRESS, UNITED PROVINCES
1931



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Erratum slip to the sixty-third annual report for the Director of Public Health, United Provinces, for 1930.

Page.	For.—	Read.—	Remarks.
Page 1 of the table of contents.	4	3	3rd entry under "page".
„ 3 ditto ..	Directors	Director	16th line from the top.
„ 5 of the report ..	..	with	In the 5th line of para. 14 between the words "first" and "death rate".
„ 7 ditto ..	tha	than	Last word in line 4 of para. 15.
„ 7 ditto ..	Uder	under	In the 3rd line of para. 29.
„ 10 ditto ..	Death rate	death rates	In the marginal heading of para. 6.
„ 10 ditto ..	Do.	Do.	In the last line of para. 13.
„ 12 ditto ..	ighest	highest	In the 5th line of para. 18.
„ 13 ditto ..	130	100	In the 7th line of para. 27.
„ 14 ditto ..	finer	flies	In the 2nd line of para. 5.
„ 26 ditto ..	D. P. H.	Dr. P. H.	In the 9th line from the top.
„ 38 ditto ..	2,50	2,500	In the table in column "no. of rats killed" against Sitapur district.
„ 40 ditto ..	2 1	2 61	In the table under column "Towns", sub-column "urban death rate", against "1921".
„ 60 ditto ..	..	in	In the 6th line of sub-para. 4 of para. 13, between the words "and" and "Fyzabad".
„ 68 ditto ..	..	office	Marginal heading of para. 6.
„ 21A of appendix D	26	25	In para. 20 against Benares Cantonment.
„ 29A ditto ..	..	stool	In the marginal heading of sub-para. 6 of para. 51 after the words "Examination of".
„ 61A ditto ..	contracts	contacts	In the last line of para. 5.
„ 62A ditto ..	given	given to	In the 3rd line of para. 1.
„ Ditto ..	Shall carry out when required, the disinfection of water supply.	Sale of articles of food which are in his opinion unfit for human consumption.	In sub-para. (b) of para. 10.
„ 4B of statistical statements.	1,243,120	1,234,120	In column 7 under "Total" against Total for the Province.
„ 37B ditto ..	33	338	In column 6 under "Female" against Azamgarh.
„ 38B ditto ..	3	31	In column 3 under "Number in each district" against Bareilly.
„ 50B ditto ..	1574.72	1574.00	In column 7 against Muttra.
„ 51B ditto ..	.20	81.80	In column 23 against Almora.
„ 53B ditto ..	3,20,320	3,20,328	In column "Paid from", sub-column "Local funds", against Grand Total.
„ 54B ditto ..	56,706	6,706	In column 1921-22, sub-column "Total no.", against Local funds under Jhansi Division.

TABLE OF CONTENTS.

	PAGE.
Form of the report	1
<hr style="width: 10%; margin: 0 auto;"/>	
<p>CHAPTER I.</p> <p>METEOROLOGY.</p>	
Rain-fall and other weather conditions	1-2
<hr style="width: 10%; margin: 0 auto;"/>	
<p>CHAPTER II.</p> <p>VITAL STATISTICS.</p>	
Population of the United Provinces on which birth and death rates have been calculated and the area in square miles	4
The birth and death rates of 1930 compared with those of 1929 and the quinquennial period	3-4
The birth and death rates and infantile mortality of the United Provinces compared with those of other provinces	4
Births and birth-rates	<i>ib.</i>
Proportion of male to female births	<i>ib.</i>
The different birth-rates considered	<i>ib.</i>
Excess of births over deaths	<i>ib.</i>
Births and birth-rates in municipalities	<i>ib.</i>
Excess of births over deaths in municipalities	<i>ib.</i>
Births and birth-rates in notified areas	<i>ib.</i>
Excess of births over deaths in notified areas	<i>ib.</i>
Deaths and death-rates	5
Incidence of mortality in districts including towns	<i>ib.</i>
Mortality in municipalities	<i>ib.</i>
Mortality in notified areas	<i>ib.</i>
Mortality according to season	<i>ib.</i>
Mortality by sexes at different age periods	<i>ib.</i>
Infantile mortality	5-6
Infantile mortality in districts	6
Infantile mortality in municipalities	<i>ib.</i>
Infantile mortality in notified areas	6-7
Infantile mortality in urban and rural areas	7
Seasonal infantile mortality	<i>ib.</i>
Mortality according to class	<i>ib.</i>
Urban and rural mortality	<i>ib.</i>
Still-births in districts	<i>ib.</i>
Verification of causes of deaths	<i>ib.</i>
Registration as tested by Assistant Directors of Public Health on general duty	<i>ib.</i>
Registration as tested by the District Health staff	<i>ib.</i>
Registration as tested by local authorities	<i>ib.</i>
Registration as tested by the vaccination staff	7-8
Neglect to comply with registration rules	8
Registration of vital statistics in Naini Tal	<i>ib.</i>
Accuracy of returns	<i>ib.</i>
<hr style="width: 10%; margin: 0 auto;"/>	
<p>CHAPTER III.</p> <p>THE STATE OF PUBLIC HEALTH IN THE PROVINCE.</p>	
General health of the province	9
Deaths and death-rates from cholera in the Province	<i>ib.</i>
Cholera in districts inclusive of towns	<i>ib.</i>
Cholera in urban areas	<i>ib.</i>
Cholera in rural areas	9-10
Deaths and death-rates from plague in the province	10
Plague in districts inclusive of towns	<i>ib.</i>
Plague in urban areas	<i>ib.</i>

	PAGE.
Plague in rural areas	10
Deaths and death-rates from small-pox in the province	<i>ib.</i>
Small-pox in districts inclusive of towns.. .. .	<i>ib.</i>
Small-pox in urban areas	<i>ib.</i>
Small-pox in rural areas	<i>ib.</i>
Small-pox Hospitals	10-11
Deaths and death-rates from fevers in the province.. .. .	11-12
Fevers in districts inclusive of towns	12
Fevers in urban areas	<i>ib.</i>
Fevers in rural areas	<i>ib.</i>
Relapsing fever, enteric fever, and kala azar	<i>ib.</i>
Influenza	<i>ib.</i>
Tuberculosis	<i>ib.</i>
Deaths and death-rates from dysentery and diarrhoea in the province	<i>ib.</i>
Dysentery and diarrhoea in districts inclusive of towns	<i>ib.</i>
Dysentery and diarrhoea in urban areas	<i>ib.</i>
Dysentery and diarrhoea in rural areas	<i>ib.</i>
Deaths and death-rates from respiratory diseases in the province	13
Respiratory diseases in districts inclusive of towns	<i>ib.</i>
Respiratory diseases in urban areas	<i>ib.</i>
Respiratory diseases in rural areas	<i>ib.</i>
Deaths from several minor causes in towns	<i>ib.</i>
Deaths from several minor causes in rural areas	<i>ib.</i>
Deaths and death-rates under the heading "All other causes" in towns	<i>ib.</i>
Deaths and death-rates under the heading "All other causes" in rural areas	<i>ib.</i>
Deaths from child-birth	<i>b.</i>
Venereal diseases	<i>ib.</i>

CHAPTER IV.

URBAN SANITATION (INCLUDING NOTIFIED AREAS).

Medical Officers of health in municipalities	14
District medical officers of health and notified areas	<i>io.</i>
Sanitary Inspectors	<i>ib.</i>
General state of sanitation of municipalities and notified areas	<i>ib.</i>
Conservancy system	14-15
Executive powers of medical officers of health	15
Infectious Diseases Hospitals	<i>ib.</i>
Expenditure by municipal boards on public health	<i>ib.</i>

MUNICIPAL WATER-SUPPLIES.

Benares water-supply	15
Lucknow water-supply	16
Cawnpore water-supply	<i>ib.</i>
Agra water-supply	<i>ib.</i>
Allahabad water-supply	<i>ib.</i>
Mirzapur water-supply	<i>ib.</i>
Muttra water-supply	<i>ib.</i>
Meerut water-supply	<i>ib.</i>
Dehra Dun water-supply	16-17
Mussoorie water-supply	17
Naini Tal water-supply	<i>ib.</i>
Hardwar water-supply	<i>ib.</i>
Unao water-supply	<i>ib.</i>
Fyzabad water-supply	<i>ib.</i>
Jhansi water-supply	<i>ib.</i>
Municipal laboratories	<i>ib.</i>

CHAPTER V.

RURAL SANITATION.

Agricultural and economic conditions	18
The District Health Service	18-20
Expansion of the present health organisation	20

	PAGE.
Rural reconstruction and uplift committee	20-21
Labour gangs	21
Village panchayats	<i>ib.</i>
Village aid scheme	<i>ib.</i>
Village aid dispensaries	<i>ib.</i>
General cleanliness of villages	<i>ib.</i>
Training of village 'aiders'	<i>ib.</i>
Model byelaws	22
Rural water-supplies	<i>ib.</i>
Public Health works	<i>ib.</i>
Expenditure by district boards on public health	<i>ib.</i>

CHAPTER VI.

PUBLIC HEALTH ADMINISTRATION.

Budget grants for the department	23
PERSONAL PROCEEDINGS AND TOURS OF OFFICERS, ETC.	
Directors of Public Health	23-24
Assistant Directors of Public Health	24-25

CHAPTER VII.

Provincial Hygiene Institute—Its Investigative and Research Work	26—29
--	-------

CHAPTER VIII.

Malaria Branch—Anti-Malarial Operations—Special Inquiries and Investigations, etc.	30—34
--	-------

CHAPTER IX.

Epidemiology Branch	35—42
-----------------------------	-------

CHAPTER X.

Hygiene Publicity Bureau and Red Cross Society	43—45
--	-------

CHAPTER XI.

Maternity and child-welfare	46—50
-------------------------------------	-------

CHAPTER XII.

Public Analyst	51-52
Inadequacy of fines	52-53

CHAPTER XIII.

School hygiene	54—57
------------------------	-------

CHAPTER XIV.

VACCINATION.

Period covered	58
Vaccination staff	<i>ib.</i>
Expenditure on vaccination	<i>ib.</i>
Average cost of each successful case of vaccination	<i>ib.</i>
General operations	<i>ib.</i>
Successful primary vaccinations in different districts	59
Successful vaccination and degree of protection afforded	<i>ib.</i>
Vaccination in proportion to births and according to age	<i>ib.</i>
Mortality from small-pox	<i>ib.</i>
Diagram	<i>ib.</i>
Dispensary vaccination	<i>ib.</i>
Vaccination by railway staff at railway dispensaries	59-60
Vaccination in municipalities	60
Vaccination in cantonments	<i>ib.</i>
Vaccination in notified areas	60-61
Vaccination of school children	61

	PAGE.
Application of the Vaccination Act	61
Compulsory vaccination in rural areas	<i>ib.</i>
General results of inspection	<i>ib.</i>
Occurrence of cases of encephalitis following vaccination	62
Provincial Bovine Lymph Dépôt, Patwa Dangar (district Naini Tal)	62-65
Experiment with a modified method of vaccination.. .. .	65
Change in the numbers of vaccination statements IV and V	<i>ib.</i>

CHAPTER XV.

OTHER PUBLIC HEALTH SERVICES.

Industrial hygiene	66
The Provincial Board of Public Health	<i>ib.</i>
Fairs	66-67

CHAPTER XVI.

GENERAL REMARKS.

Leper Asylums	68
Public Health Acts	<i>ib.</i>
Famine	<i>ib.</i>
Public health essays	<i>ib.</i>
Corruption in the public service	<i>ib.</i>
Office	<i>ib.</i>

Thirty-sixth Annual Report of the Superintending Engineer, Public Health department, United Provinces of Agra and Oudh, for the year ending March 31, 1931	i—xlvi
--	--------

APPENDICES TO THE REPORT OF THE DIRECTOR OF PUBLIC HEALTH,
UNITED PROVINCES.

	PAGE.
Appendix A.—Annual report of the Board of Public Health, United Provinces, for the year ending March 31, 1931	2A—10A
„ B.—Statement showing expenditure incurred during 1930 out of the grants made by the Board of Public Health, United Provinces, for the improvement of rural sanitation in previous years	11A
„ C.—Summary of the work done during 1930 by the public health personnel in districts where the district health service has been established	12A-13A
„ D.—Report on the Public Health and medical arrangements made at the Kumbh Mela, Allahabad, 1930	15A—31A

STATISTICAL STATEMENTS

(VITAL STATISTICS.)

Form no. I.—Births registered in the districts of the United Provinces during the year 1930	2B-3B
„ II.—Births and deaths registered in the districts of the United Provinces during the year 1930	4B-5B
„ III.—Deaths registered in the districts of the United Provinces during each month of the year 1930	6B-7B
„ IV.—Deaths registered according to age in the districts of the United Provinces during the year 1930	8B—11B
„ V.—Deaths registered according to classes and sexes in the districts of the United Provinces during the year 1930	12B—17B
„ VI.—Deaths from different causes and births registered in the towns (having a population of 10,000 and upwards) and districts (exclusive of such towns) of the United Provinces during the year 1930	18B—26B
„ VI(a).—Deaths registered from certain causes in the towns (having a population of 10,000 and upwards) and districts (exclusive of such towns) of the United Provinces during the year 1930	27B—35B
Form no. VII.—Deaths registered from cholera in the districts of the United Provinces during each month of the year 1930	36B-37B

	PAGE.
Form no. VIII.—Deaths registered from small-pox in the districts of the United Provinces during each month of the year 1930	38B-39B
„ IX.—Deaths registered from fevers in the districts of the United Provinces during each month of the year 1930	40B-41B
„ X.—Deaths registered from dysentery and diarrhoea in the districts of the United Provinces during each month of the year 1930 ..	42B-43B
„ XI.—Deaths registered from respiratory diseases in the districts of the United Provinces during each month of the year 1930.. ..	44B-45B
„ XII.—Deaths registered from plague in the districts of the United Provinces during each month of the year 1930	46B-47B

STATISTICAL STATEMENTS AND APPENDICES.

(VACCINATION.)

Statement no. I.—Showing the particulars of vaccination in the United Provinces during the year 1930-31	50B-51B
Statement no. II.—Showing the cost of the department in the United Provinces during the year 1930-31	52B-53B
Statement no. III.—Showing the number of persons primarily vaccinated and the number successfully vaccinated in the United Provinces for a series of ten years	54B-56B
Statement no. IV.—Showing the particulars of vaccination verified by inspecting officers in the United Provinces during the year 1930-31..	57B-59B
Appendix A.—Showing the number and ratio of successful vaccinations and number and ratio of deaths from small-pox in each district of the United Provinces for a series of ten years	60B-63B
Appendix B.—Showing the number of vaccinations performed in the municipal towns of the United Provinces on children under one year of age during the year 1930-31	64B-65B

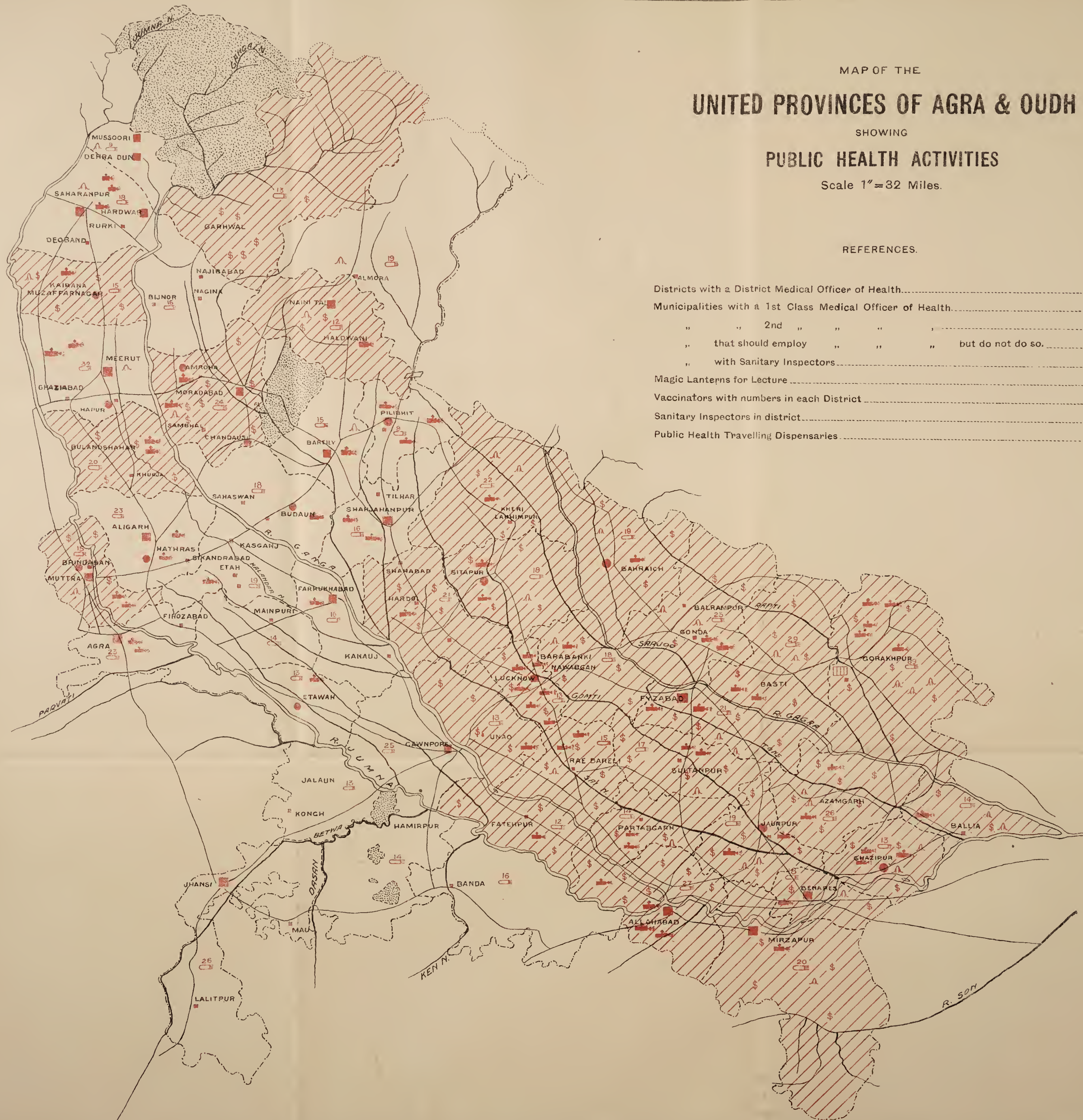
MAP OF THE UNITED PROVINCES OF AGRA & OUDH

SHOWING
PUBLIC HEALTH ACTIVITIES

Scale 1"=32 Miles.

REFERENCES.

- Districts with a District Medical Officer of Health.....
- Municipalities with a 1st Class Medical Officer of Health.....
- " " 2nd " " " " but do not do so.....
- " " with Sanitary Inspectors.....
- Magic Lanterns for Lecture.....
- Vaccinators with numbers in each District.....
- Sanitary Inspectors in district.....
- Public Health Travelling Dispensaries.....



PROVINCIAL ORGANIZATION

GOVERNMENT OF THE UNITED PROVINCES DEPARTMENT OF PUBLIC HEALTH.

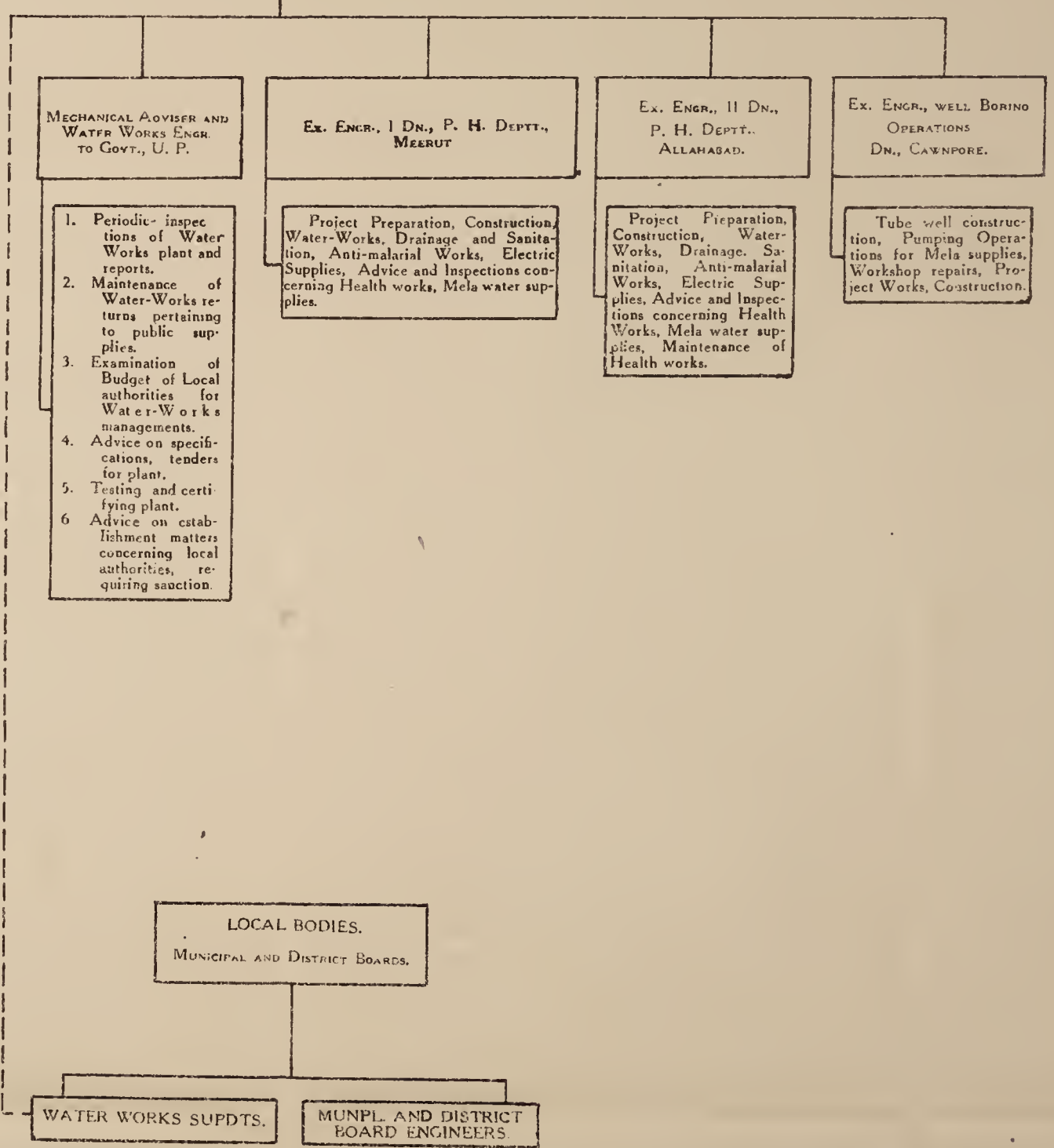
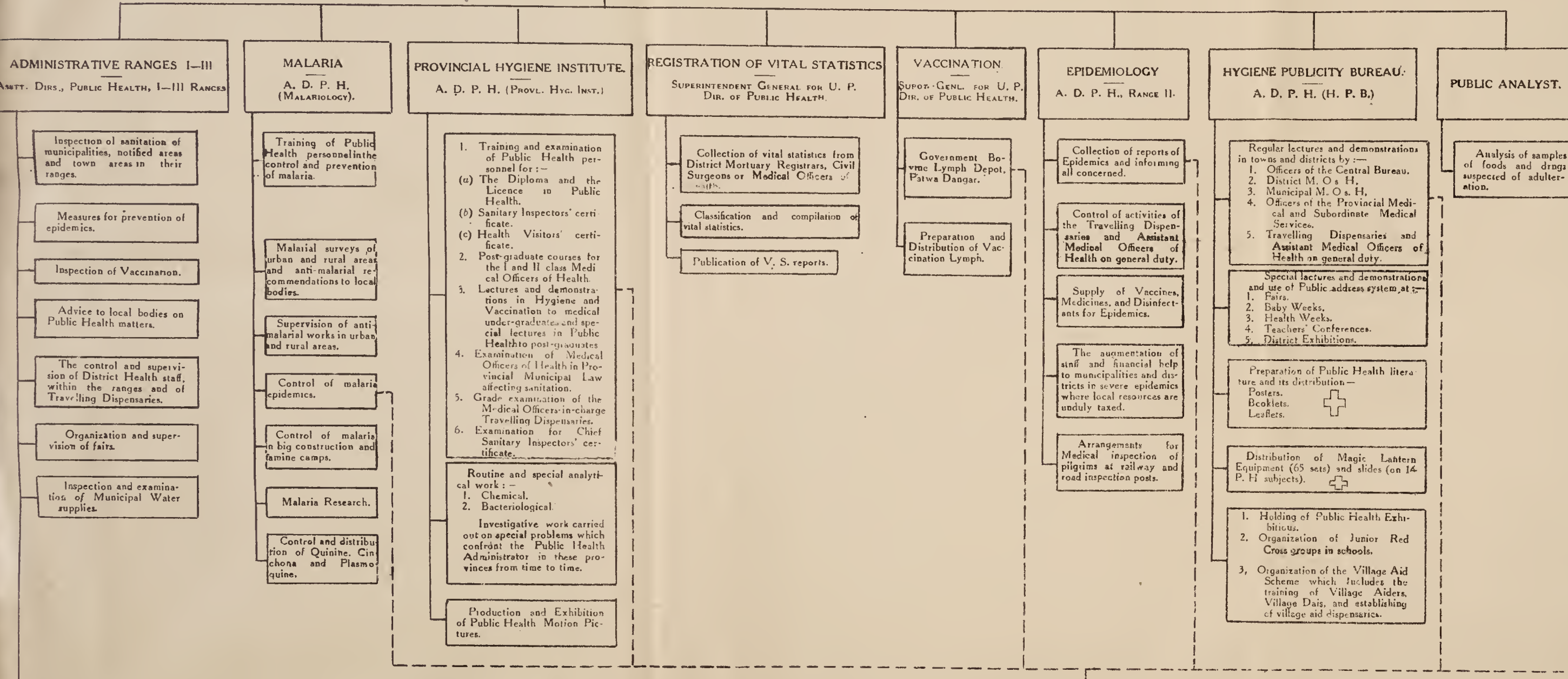
BOARD OF PUBLIC HEALTH

It consists of 6 official and 9 non-official members and its duties are :—
(1) To serve as the adviser of Government ; to be the central and controlling authority in all matters of sanitation ; to initiate measures for the improvement of Public Health and to assist local authorities in every way in matters falling within its province.
(2) To deal with projects for sanitation undertaken by district or municipal boards, notified and town areas.
(3) To assist local bodies with grants-in-aid of sanitary works from the funds placed at its disposal by Government.

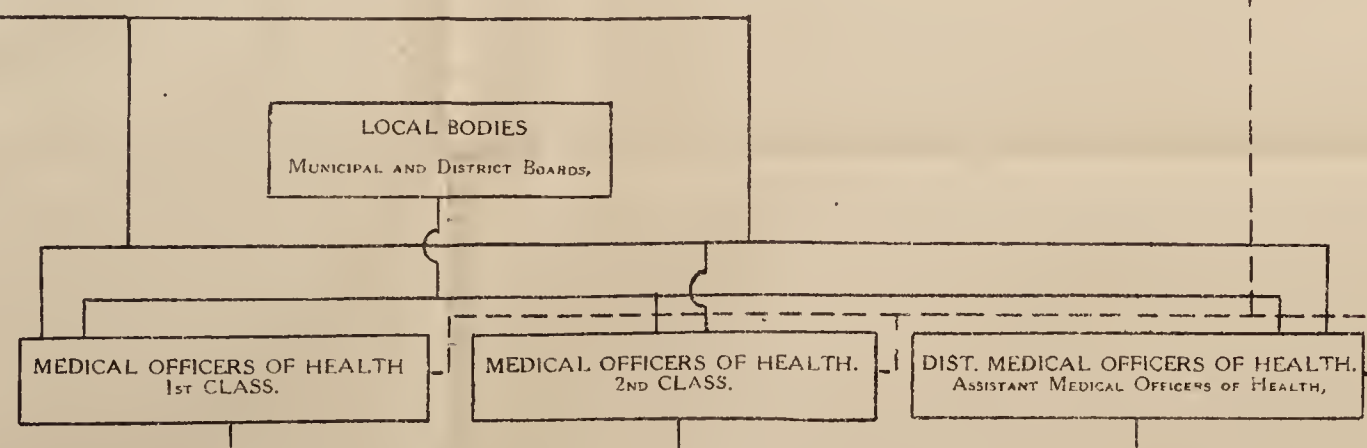
DIRECTOR OF PUBLIC HEALTH.

SUPERINTENDING ENGINEER, PUBLIC HEALTH DEPARTMENT.

Examination of projects submitted by local authorities for sanction of Government and Board of Public Health and advice thereon. Inspection of Health works. Supervision of Government aided works in Public Health. Reviewing progress and expenditure record of aided works.



LOCAL ORGANISATION



Chief Sanitary Inspectors

Sanitary Inspectors.

Assistant Superintendents of Vaccination

Vaccinators.

Sub-Registrars of Births and Deaths.

Advisory function ———

Administrative control - - - - -

Sixty-third Annual Public Health Report of the Director of Public Health, United Provinces of Agra and Oudh, for the year ending December 31, 1930.

In their resolution no. 86, dated May 9, 1877, the Government of India prescribed a form for all the Provincial Public Health Reports, dividing them into various sections. Later in 1878 certain sections were ordered to be omitted. The sphere of the work of the Public Health departments in all the provinces in India having since considerably increased the present classification is no longer suitable to meet present conditions. I therefore recommended to Government that the present classification of the Public Health Report be dropped and that the revised arrangement proposed by me to suit the existing requirements be adopted. The Local Government having approved of my proposals, this report has been prepared in the revised form.

Form of the report.

CHAPTER I.

METEOROLOGY.

2. This note on the principal meteorological and weather conditions in these provinces has been kindly furnished by the Director-General of Observatories :—

Rainfall and other weather conditions.

The Cold Weather period—January to February.—Of the western disturbances of January only one which passed across Northern India about the middle of the month caused fairly widespread rain in the province, more rain falling in the west than in the east. The month's total was consequently in excess in the West United Provinces and in considerable defect in the East. Two disturbances which appeared within the first ten days of February were also productive of rain in the province, and the month's fall did not differ appreciably from normal.

The Hot weather period—March to May.—In spite of the passage of several western disturbances across Northern India, the period was unusually dry over the whole province, less than half the usual amount of rain being received. The deficiency was greatest in the west of the province in March and in the east in May. Humidity was in slight defect in all the months; maximum temperature was slightly above normal in March.

The monsoon period—June to September.—Towards the close of the second week of June extensive rain fell in the province in connexion with a disturbance over north-west India. The monsoon extended into the province somewhat later than usual and was active only on some days in the last week, with the result that the total rainfall of the month was in moderate to large defect. In the month of July the activity of the monsoon was stimulated by the passage of four depressions from the Bay and rainfall was in excess throughout the province. The monsoon was weak at the beginning of August, but strengthened slightly especially in the eastern districts under the influence of a depression from the Bay. It was vigorous throughout the province in the second week. It began to weaken thereafter, and a break which set in on the 20th lasted well into the first week of September. The monsoon began to revive towards the close of the first week, and in the second week there was widespread rain over the whole province. From the 17th onward till the end of the month the activity of the monsoon was confined to the eastern districts. The percentage departure from normal during the period in the two sub-divisions are as follows :—

Sub-division.	June.	July.	August.	September.	Total of the period.
U. P. East	—57	+35	—6	+54	+12
U. P. West	—27	+26	—14	—66	—11

Skies were more clouded than usual from July to September. Humidity was in defect in June.

The retreating monsoon period—October to December.—The first three weeks of October were dry except for occasional showers at some stations. In the last week western disturbance gave rain in the Kumaun hills and a storm from the Arabian Sea which crossed the coast near Surat caused widespread rain in the province. In the beginning of November a few falls occurred in the Kumaun hills, and on the 19th moderately heavy rain fell in the south-east of the province under the influence of a depression from the Bay; the month was otherwise dry. Dry weather continued in the first three weeks of December, but a western disturbance which appeared on the frontier on the 28th gave abundant rain for the season. Cloud proportion was in excess in October. Humidity was in defect in December.

CHAPTER II.

VITAL STATISTICS.

The provincial birth and death-rates shown in this report have been calculated on the population according to the census of 1921 which is 45,375,787 as the corrected figures of the 1931 census are not yet available and excludes the population of the Indian States of Rampur, Tehri Garhwal and Benares. The birth and death-rates of the province according to the above population for the year 1930 were 37·31 and 27·20, respectively.

Population of the United Provinces on which birth and death-rates have been calculated and the area in square miles.

Appended is a table showing the provincial birth and death-rates for 1930 as calculated on the population according to the census of 1921 and the preliminary figures for the census of 1931 as well as on the population arrived at by natural increase, i.e., by adding the excess of births over deaths during the ten-year period 1921 to 1930 :—

Population for different periods.	Birth rate	Death rate.
Population according to the census of 1921=45,375,787 ..	37·31	27·20
Population according to the census of 1931=48,423,264 ..	34·97	25·49
Population arrived at by natural increase=49,303 555 ..	34·34	25·03

The area of the province is 107,167 square miles.

It will be seen that the preliminary figures of the census of 1931 indicate an increase in the population of over three millions in the decennial period or nearly 7 per cent., so that the birth and death-rates calculated on the figures for the census of 1921 are considerably higher than the actuals calculated on the provisional figures for 1931. This means that all the birth and death-rates given since 1921 have been progressively higher than the actuals throughout the decennial period culminating in the highest percentage of error for 1930.

It will be noticed that the Public Health department's calculation of the population arrived at by natural increase is about 900,000 too much. This is due to two main causes :—

(1) The Public Health department have no figures at their disposal giving the emigration from and immigration to the province, but it is well known that emigration from the United Provinces is usually greater than immigration, and it would appear from these figures that emigration during the last ten years has considerably exceeded the immigration.

(2) The second cause of error in the calculated figures is in the reporting of births and deaths, and as the error in reporting deaths is usually smaller than the error in reporting births, the figures point to a still further excess in emigration over immigration. In the British Isles the Registrar-General compiles his returns of vital statistics on a calculated population in the middle of each year under report, and he arrives at these figures by subtracting the deaths from births and the number of emigrants from the number of immigrants. The calculated figures are very accurate as he receives accurate figures of the numbers of immigrants and emigrants to the British Isles, and as these immigrants and emigrants arrive and leave either by air or sea, there is less difficulty in the collection and submission of accurate figures. In the United Provinces there are no arrangements for noting the numbers of persons leaving and entering the United Provinces nor is it practicable for any accurate figures to be supplied, as large numbers of travellers leave and enter the United Provinces daily by train, by road and otherwise. It is for this reason that the vital statistics of the United Provinces are still calculated on the figures of the previous census. It is true that fairly accurate figures for the province as a whole could be calculated on the estimated population arrived at by the subtraction of deaths from the births, but such figures would be more inaccurate if applied to certain individual towns and rural areas. I am of opinion, however, that the time has come for our annual statistics to be calculated on the estimated population of each year. The inaccuracies will be far fewer than those resulting from the employment of the present method. The population as a whole of each area reported on annually can be estimated by subtracting the deaths from the births or *vice versa* and by allowing an additional factor for increase or decrease by immigration and emigration based on the actuals of the previous ten years. I intend to approach Government on this subject very shortly.

2. The provincial birth-rate for the year 1930 showed an increase of 2·98 over that of the preceding year and of 2·07 over the quinquennial average, the rates for the two years and for the quinquennial period being, respectively, 37·31, 34·33 and 35·24 per mille of the population. The

The birth and death rates of 1930 compared with those of 1929 and the quinquennial period (Statements I and II).

provincial death rate for the year was 27·20 as against 24·26 in 1929 and 24·18, the quinquennial average.

The birth and death-rates and infantile mortality of the United Provinces compared with those of other provinces.

3. A statement showing the birth and death-rates and the infantile mortality rates of the United Provinces as also of other provinces is appended below :—

Province.				Birth rate.	Death rate.	Infantile mortality.
United Provinces	..	..	..	37·31	27·20	170·79
Bombay	..	..	..	37·41	29·53	187·14
Madras	..	..	..	39·83	25·52	185·63
Bengal	..	..	..	26·60	22·49	187·30
Bihar and Orissa	..	..	..	36·2	29·6	137·8
Assam	..	..	..	31·35	21·40	174·44
Central Provinces	..	..	..	47·74	37·76	241·82
Punjab	..	..	..	43·23	29·66	185·73
Burma	..	..	..	28·87	20·82	202·26
North-West Frontier Province	..	..	..	25·60	21·89	146·54
Delhi	..	..	..	49·25	32·19	190·38

BIRTHS.

Births and birth-rates. (Statement I.)

4. The total number of births recorded during 1930 was 1,693,173 giving a birth-rate of 37·31 as against 1,557,726 and 34·33, respectively, in the preceding year. The highest birth-rate (3·74) was recorded in August and the lowest (2·37) in May.

Proportion of male to female births. (Statement I.)

5. For the last seven years the number of males born to every 100 females has practically been the same. During the year under report the proportion was 112·27 as against 112·38 in the preceding year.

The different birth-rates considered (Statement I.)

6. The highest birth-rates were recorded in the districts of Moradabad (50·84), Shahjahanpur (49·67), Saharanpur (48·63), Bijnor (48·17) and Agra (46·76), and the lowest in those of Rae Bareilly (26·11), Partabgarh (27·79), Gonda (28·56), Sultanpur (28·67) and Jaunpur (28·68). Moradabad has been showing the highest birth-rates and Rae Bareilly the lowest for the past several years.

Excess of births over deaths (Statements I and II)

7. During 1930, births exceeded deaths by 459,053 or 10·11 per mille of the population. The excess was contributed by all the districts except Bareilly, Jhansi, Hamirpur, Banda, Naini Tal and Lucknow.

Births and birth-rates in municipalities.

8. During the year under review the total number of births registered in municipalities was 146,507 yielding a ratio of 50·43 per 1,000 of the population against 139,063 and 47·87, respectively, in the preceding year. The municipalities returning the highest birth-rates were Agra (72·24), Jalesar (71·84), Sikandrara (67·09), Bisalpur (64·54), Chandpur (63·27), and those returning the lowest rates were Mussoorie (13·13), Mainpuri (13·73), Banda (20·12), Naini Tal (24·08) and Ballia (25·31).

Excess of births over deaths in municipalities.

9. As in districts, the births in municipalities exceeded deaths by 8·55 per 1,000 of the population. The excess was shared by all excepting the municipalities of Hardwar, Brindaban, Pilibhit, Bisalpur, Mau, Lalitpur, Konch, Banda, Benares, Lucknow, Rae Bareilly and Fyzabad.

Births and birth-rates in notified areas.

10. The number of births recorded in notified areas during the year under review was 16,113 against 15,249 in the preceding year, the birth-rates for the two years being 42·04 and 39·28. Twenty-six notified areas exhibited a birth-rate above, and 27 below, the provincial average. The highest birth-rates were recorded in Fatehpur-Sikri (71·72), Marehra (59·28), Pihani (58·42), Dibai (57·44) and Bindki (56·85), and the lowest in Rikhikesh (9·60), Auraiya (10·51), Mainpuri Civil Station (17·10), Rajpur (20·36) and Deoria (20·43).

Excess of births over deaths in notified areas

11. Taking the notified areas as a whole the births were in excess of deaths by 8·97 per 1,000 of the population. The excess was contributed by 41 out of the 53 notified areas.

DEATHS.

12. The total number of deaths registered during the year under review was 1,234,120 (656,680 males and 577,440 females) as against 1,100,684 deaths (583,720 males and 516,964 females) in the preceding year, the rates for the two years being 27·20, 27·60 and 26·75; and 24·26, 24·54 and 23·95, respectively. The quinquennial average for the previous five years was 24·18.

Deaths and death-rates. (Statement II.)

13. Twenty-one districts out of 48 returned a death-rate above the provincial average (27·20). Jhansi recorded the highest death-rate (47·21), while Ballia the lowest (17·89).

Incidence of mortality in districts. including towns. (Statement II.)

(For further details refer to Statement II.)

14. During the year 1930 the total number of deaths reported from municipalities was 121,675 yielding a death-rate of 41·88 as against 126,596 and 43·58 in the preceding year. Out of 85 municipalities 38 recorded a death-rate higher than the provincial average. Among the municipalities recording the highest mortality, Mau (Jhansi district) stood first a death-rate of 71·61 and was followed by Bisalpur (Pilibhit district) with 71·17 and Brindaban with 64·86. The high mortality in Mau and Brindaban was chiefly due to fevers, respiratory diseases and all other causes, while in Bisalpur to fever, all other causes, small-pox and dysentery and diarrhoea. The lowest mortality was recorded in Mussoorie (8·65), Mainpuri (8·85) and Ballia (13·78). Mainpuri and Mussoorie showed the lowest rates last year also.

Mortality in municipalities.

15. The notified areas recorded 12,674 deaths during the year under review against 12,727 deaths in the previous year—the ratios of deaths per 1,000 of the population for the two years being, respectively, 33·07 and 32·86. Twenty-four notified areas returned a death-rate higher, and 29 lower, than the provincial average. Rath (Hamirpur district) returned the highest mortality (67·33) and was followed by Bindki (Fatehpur district) with 61·53 and Muhamdi (Kheri district) with 58·97. The high mortality in Rath and Bindki was chiefly due to fevers, respiratory diseases and all other causes, while in Mahamdi it was due to fever, plague, all other causes and cholera. The lowest mortality was noticed in Mainpuri Civil Station, Auraiya (Etawah district) and Baghpat (Meerut district), the ratios for these places being 8·18, 10·20 and 12·57, respectively.

Mortality in notified areas.

16. According to months, the highest death rate from all causes was recorded in June (2·71) and the lowest (1·60) in February.

(For further details refer to Statement III.)

Mortality according to season. (Statement III.)

17. Out of 1,234,120 recorded deaths 656,680 occurred among males and 577,440 among females, the death-rates for the two sexes being 27·60 and 26·75, respectively. The corresponding figures and ratios for the preceding year were 583,720, 516,964, 24·54 and 23·95, respectively.

Mortality by sexes at different age periods. (Statement IV.)

The number of deaths among infants under one year of age was 289,181 consisting of 158,571 males and 130,610 females.

(For further details refer to Statement IV.)

18. In the subjoined table are compared the deaths and death-rates among infants calculated on the births of the year for a series of years. A chart showing infantile mortality in the United Provinces from 1906 to 1930 is also attached :—

Infantile mortality.

Year.	Births.			Deaths of infants.			Death-rates of infants.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Decennial average (1911—1920).	1,030,750	946,901	1,977,651	243,564	213,673	457,237	237·2	227·1	232·3
1921	819,854	740,748	1,560,602	197,223	171,903	369,131	240·6	232·1	236·5
1922	769,516	690,272	1,459,788	145,928	122,384	268,312	189·6	177·3	183·8
1923	864,154	771,296	1,635,450	150,557	126,447	276,994	174·2	163·9	169·4
1924	833,889	741,421	1,575,310	165,194	137,248	302,442	198·1	185·1	192·0
1925	785,661	699,614	1,485,275	140,991	119,688	260,679	179·4	171·1	175·5
1926	820,921	731,133	1,552,054	150,514	124,746	275,260	183·3	170·6	177·3
1927	881,412	785,067	1,666,479	138,328	114,557	252,885	156·9	145·9	151·7
1928	916,760	818,329	1,735,159	152,134	125,320	277,454	165·9	153·1	159·9
1929	824,231	733,445	1,557,726	142,944	119,701	262,645	173·4	163·2	168·6
1930	895,508	797,665	1,693,173	158,571	130,610	289,181	177·1	163·7	170·8
Decennial average (1921-1930).	841,190	750,906	1,592,102	154,239	129,259	283,498	183·8	172·6	178·5

The mortality among infants during the year 1930 was higher than that in the preceding year, but it was lower than the decennial averages for the years 1911—20 and 1921—30. 1,745 deaths were recorded in the municipalities employing municipal medical officers of health as due to tetanus. Of these 1,041 deaths were verified by medical officers of health, with the result that only 760 deaths were found to have actually occurred from this cause.

In the municipalities employing medical officers of health no deaths from this disease were reported from Dehra Dun, Mussoorie, Hardwar, Muzaffarnagar, Hapur and Brindaban. The medical officers of health concerned will be addressed on the subject.

Infantile mortality in districts.

19. The provincial infantile mortality rate in 1930 was 170·8 as against 168·6 in 1929; 23 districts recorded infantile mortality rates above, and 25 below, the provincial average. Hamirpur topped the list with a death-rate of 270·06 and was followed by Jhansi, Naini Tal, Lucknow and Jalaun with death rates of 288·67, 265·10, 246·16 and 237·68, respectively. Lucknow and Naini Tal, which held the first and second positions last year, stood fourth and third during the year under report. The high infantile death-rate in Hamirpur was chiefly due to other respiratory diseases, malaria, other fevers and measles. In Jhansi and Naini Tal it was due to malaria, other fevers and other causes; exhaustion and malnutrition being the additional factor in Jhansi. Malaria and other fevers, tetanus and convulsions, exhaustion and malnutrition, pneumonia, premature birth and other causes were responsible for the high infant death-rate in Lucknow and malaria, other fevers, premature birth and other causes in Jalaun.

The lowest mortality among infants was registered in Gonda (124·43), Ballia (128·40), Etah (128·47), Gorakhpur (128·77) and Almora (136·03).

Infantile mortality in municipalities.

20. Mortality among infants in the municipal towns was lower in 1930 than that in 1929, the mortality rates for the two years being 257·15 and 279·50, respectively. In 37 municipalities the death-rate was higher, while in 48 lower, than the provincial average (257·15). Mau (district Jhansi) returned the highest infantile death-rate (460·59) which was chiefly due to malaria, other respiratory diseases, exhaustion and malnutrition and other causes.

High infant mortality rates were also noticeable in Jhansi (377·31), Sandila (358·54), Pilibhit (355·58) and Etawah (351·16). In Jhansi they were chiefly due to other fevers and exhaustion and malnutrition; in Sandila to malaria and tetanus and convulsions; in Pilibhit to tetanus and convulsions; and in Etawah to other fevers, exhaustion and malnutrition. The municipalities returning the lowest infant mortality rates were Ballia (130·15), Ghaziabad (137·25), Meerut (162·05), Baraut (162·92) and Lakhimpur (168·54).

Maternity and child welfare centres were started in the municipalities of Bareilly, Lucknow and Cawnpore in 1922, 1926 and 1927, respectively, and as a result of the work carried out the death-roll amongst infants has been considerably reduced as will be seen from the figures given below :—

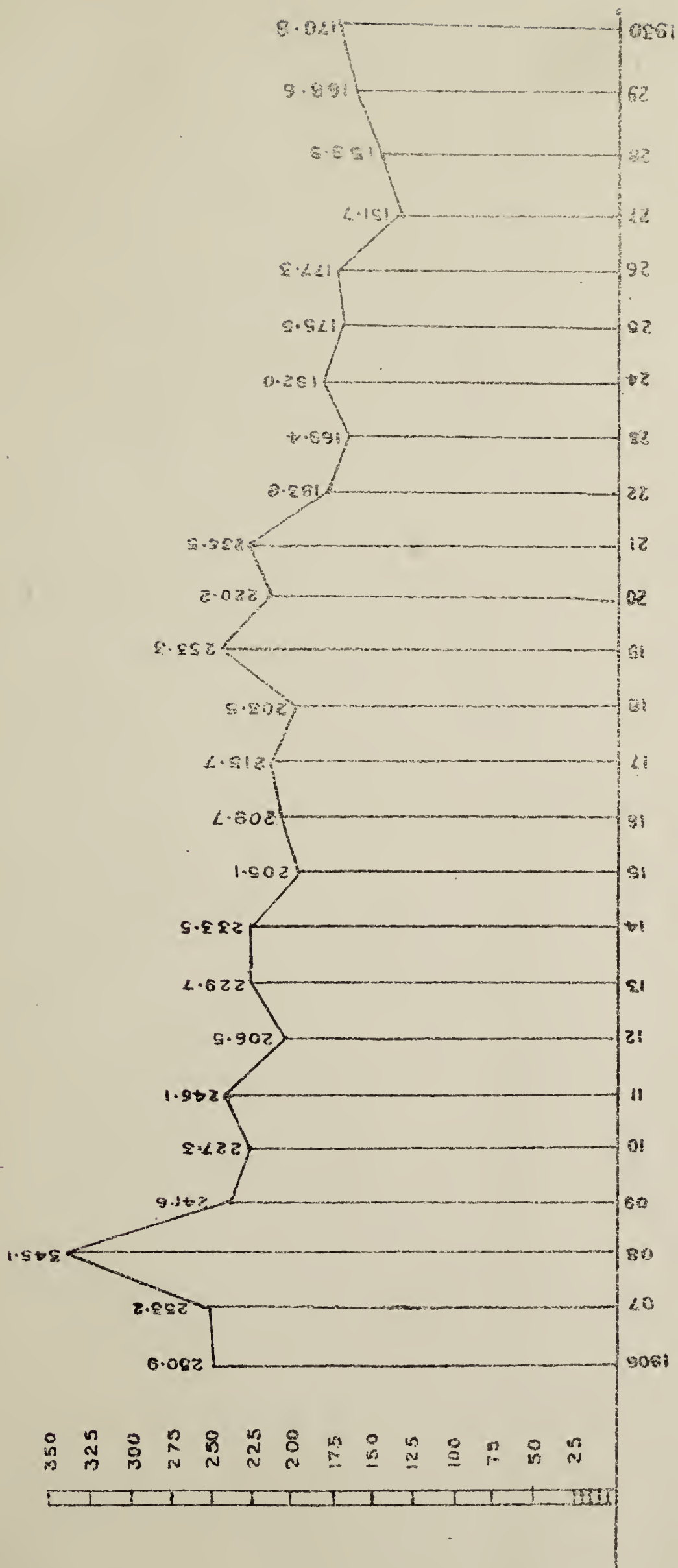
Municipality.					Average infantile death-rate during the previous five years.	Average infantile death-rate after the introduction of the centre.	Infantile death-rate in 1930.
Bareilly	..	..	..	..	246·44	166·78	192·31
Lucknow	..	..	..	..	292·22	339·13	329·43
Cawnpore	..	..	..	..	465·49	368·69	301·81

It may be stated that the figures in Lucknow are vitiated by the high malaria in 1928 and 1929.

Infantile mortality in notified areas.

21. Taking the notified areas as a whole the infantile death-rate during 1930 was 240·30 as against 220·87 in the preceding year. 23 notified areas returned death-rates higher, and 30 lower, than the provincial average. Rath returned the highest death-rate (461·54) and was followed by Badshahpur with 420·35, Bindki with 406·56, Rajpur with 397·26 and Haldwani with 386·97. The lowest infantile death-rates were recorded in

INFANTILE MORTALITY PER 1,000 OF BIRTHS IN THE U.P. FROM 1906-1930.



Rikhikesh (30.30), Shikohabad (92.68), Bhowali (115.38), Baghpat (125.00) and Gorakhpur (126.51). No deaths among infants were registered in Chunar settlement where the circumstances are peculiar.

22. During the year under review the urban and rural infantile death-rates per mille of registered births were 253.96 and 162.67, respectively, as compared with 275.77 and 157.79, respectively, in the previous year.

Infantile mortality in urban and rural areas. [Statement VI(a)]

23. The maximum mortality among children under one year of age occurred in September and the minimum in February, the number of deaths of infants for the two months being 30,181 and 16,728, respectively.

Seasonal infantile mortality.

24. The death-rate according to class was highest among Muslims (28.96). It was 27.17 amongst Hindus, 6.19 amongst other classes and 5.27 amongst Christians.

Mortality according to class. (Statement V.)

(Further details will be found in Statement V.)

25. During 1930 the general mortality in the urban areas was 40.99 and that in the rural areas 26.21 as against 43.03 and 22.91, respectively, in the preceding year. The mean ratio of deaths per mille of the population for the previous five years was 38.82 in the case of urban areas and 23.13 in that of rural tracts.

Urban and rural mortality. (Statement VI.)

26. There was an increase in the number of still-births registered during the year under report as compared with the figures of the preceding year, the actual number of such deaths during the two years, being 14,555 and 12,937, respectively. As usual, Gorakhpur returned the largest number of still-births viz. 3,632. The District Medical Officer of Health, Gorakhpur, was asked to make an inquiry to ascertain the cause of the high rate of still-births in the district. No special reason could be assigned; the high rate being attributed to the usual causes, i.e., early marriage, poor diet, hard labour in females, absence of trained *dais* and defective registration. Sitapur followed with 916 and Azamgarh with 869 deaths. The lowest number of still-births occurred in the districts of Etah, Sultanpur, Jalaun and Etawah. No still-births were reported to have occurred in the district of Mainpuri.

Still-births in districts.

27. In 1930, 3,744 deaths (which occurred within the limits of the practice of Government medical officers as well as in the medical institutions) were verified by Civil Surgeons and their subordinates. The largest number of deaths (2,408) was, as usual, due to "all other causes". Next in order came pneumonia (371), dysentery (246), tubercle of the lungs (241), other tubercular diseases (86), cholera (77) and all other infective diseases (54). Malaria claimed 49 deaths, tetanus (44) and enteric fever (38). Leprosy and syphilis were responsible for 28 and 23 deaths, respectively. Deaths from pyrexia of uncertain origin, small-pox, plague, influenza, rheumatic fever and rheumatism, kala azar, gonorrhoea, scurvy and relapsing fever ranged between 2 and 19. There were no deaths from Beri-beri.

Verification of causes of deaths.

Out of the total deaths verified 571 were among children, 2,226 among adults between 16 and 45 years of age and 947 among adults over 46 years of age.

28. During 1930, 1,167 birth and death entries were tested by Assistant Directors of Public Health on general duty against 1,446 in 1929.

Registration as tested by Assistant Directors of Public Health on general duty. Registration as tested by the District Health staff.

29. The District Health staff checked 267,430 birth and death entries in 1930 against 225,520 in 1929. The percentage of omissions detected during the year under report was 6.0 as compared with 5.6 in the preceding year.

30. During the year under review 118,079 entries (66,277 birth and 51,802 death) were tested by the local authorities as against 109,265 entries in the preceding year. The percentages of omissions discovered in the birth and death entries were, respectively, 2.89 and 2.13. Banda was easily first with 27,044. Jhansi followed with 9,914, Moradabad with 9,869, Jaunpur with 6,479 and Sitapur with 5,364. The districts showing the smallest number of entries tested were Cawnpore (178), Bulandshahr (211), Etawah (247), Ballia (280) and Hardoi (358). No testing was done in the districts of Etah, Bareilly, Bijnor, Farrukhabad, Ghazipur, Gorakhpur, Azamgarh, Naini Tal, Kheri, Gonda, Bahraich and Sultanpur.

Registration as tested by local authorities.

31. 1,347,842 entries (844,171 birth and 503,671 death) were checked by the vaccination staff during the year under review as compared with 1,265,193 in the preceding year, showing an increase of 82,649. The per-

Registration as tested by the vaccination staff.

centage of omissions discovered in the case of birth entries was 1·17, while that in the case of death entries it was ·84 as against 1·04 and ·58, respectively, in the preceding year. The districts showing the largest number of entries tested were Hardoi (52,476), Gorakhpur (52,225), Meerut (44,530), Bareilly (39,738) and Garhwal (38,752). Dehra Dun (5,452), Naini Tal (14,951), Fatehpur (15,531), Fyzabad (15,775) and Mainpuri (16,893) showed the lowest number of entries tested. The attention of the district medical officers of health and civil surgeons of districts where the number of entries tested was below the provincial average will be called to the matter.

Neglect to
comply with
registration
rules.

32. During the year under report 2,431 persons were fined for neglect in complying with registration rules. The total amount realized on this account was Rs. 1,293. The corresponding figures for the preceding year were 2,338 and Rs. 1,188, respectively.

Registration of
vital statistics
in Naini Tal.

33. During the year under report a scheme was prepared in consultation with the District Medical Officer of Health, Naini Tal, and the Commissioner, Kumaun division, to provide for the better registration of births and deaths by Forest Guards and for the reporting of outbreaks of epidemic diseases by them to the District Medical Officer of Health, Naini Tal, through their Range Officers.

Accuracy of
returns.

34. From the table (appended below) indicating the ratios of deaths per cent. of the total number of deaths in the returns submitted by the expert agency and the ordinary registration agency as well as the calculated number of deaths on the data supplied by the qualified agency and the actual number of deaths reported by the ordinary agency it will be observed that as usual deaths returned by the ordinary agency in respect of dysentery, kala azar, enteric fever and pneumonia were under-reported, while those returned by the same agency in respect of cholera, small-pox, plague, relapsing fever and malaria were over-reported :—

Name of disease.	Percentage of total deaths by—		Calculated number of deaths on the data supplied by professional agency.	Actual number of deaths reported by ordinary agency.
	Verified agency,	Unverified agency.		
Cholera	2·06	4·97	25,381	61,334
Small-pox.. ..	·40	·90	4,944	11,071
Plague	·37	·88	4,615	10,860
Dysentery.. ..	6·57	·63	81,088	7,813
Enteric fever	1·01	·81	12,526	10,017
Relapsing fever	·05	·10	659	1,244
Malaria	1·31	67·42	16,152	832,113
Kala-azar.. ..	·21	·03	2,637	322
Pneumonia	9·91	·67	122,291	8,338

As the number of deaths in which the cause was verified by professional agency was as usual very small compared with the total number, the limit of error in the calculation is very large. The return, however, has its value in showing that it is probable that the chief cause of death, as in previous years, is pneumonia, and that dysentery and tubercle are responsible for a large mortality.

CHAPTER III.

THE STATE OF PUBLIC HEALTH IN THE PROVINCE.

The death-rate during 1930 was 27·20 as compared with 24·26 in 1929 and 27·45 the decennial average. From the statement appended below it appears that the figures of 1930, as compared with those of 1929, show increases under all heads except "small-pox", "plague" and "injuries", while compared with the decennial average there are increases under "cholera", "small-pox", "dysentery and diarrhoea" and "respiratory diseases" and decreases under other heads:—

General health
of the province.

Chief causes of mortality.	Death-rate per mille for 1929.	Death-rate per mille for 1930.	Average death-rate for preceding 10 years 1920—1929.	Increase or decrease as compared with 1929.	Increase or decrease as compared with decen- nial average
Cholera	1·12	1·35	·81	+·23	+·54
Small-pox	·26	·24	·11	—·32	+·13
Plague	·83	·24	·97	—·59	—·73
Fever	17·86	20·77	20·94	+2·91	—·17
Dysentery and diarrhoea ..	·33	·36	·29	+·03	+·07
Respiratory diseases ..	·74	·77	·65	+·03	+·12
Injuries	·46	·45	·47	—·01	—·02
All other causes.. ..	2·66	3·02	3·18	+·36	—·16
All causes	24·26	27·20	27·45	+2·94	—·25

CHOLERA.

2. During the year under review cholera claimed 61,334 deaths against 50,924 in 1929. The rates per 1,000 of the population for the two years were respectively, 1·35 and 1·12 and the quinquennial average ·61. The maximum mortality (11,583) occurred in May and the minimum (125) in January.

Deaths and
death-rates
from cholera in
the province.
(Statement VII.)

3. In 16 districts the mortality from cholera was above the average for the province (1·35). The district of Gonda, with a death-rate of 4·25, was most conspicuous. It was followed by the districts of Gorakhpur, Basti and Bareilly with death-rates of 4·20, 3·92 and 2·77, respectively. The lowest number of deaths (2), which was recorded in Jalaun, was too small to yield a ratio. The other districts showing low mortality were Agra and Almora with a death-rate of ·01 each and Meerut and Muttra with a death-rate of ·04 and ·05, respectively.

Cholera in
districts
inclusive of
towns.
(Statement VII.)

4. The death-rate from the disease in towns having a population of 10,000 and upwards during 1930 was ·72 against 1·14 in 1929. Out of 92 towns 16 were entirely immune from the disease, while in 38 the number of deaths did not exceed 10. The highest mortality rate (8·40) was noticed in Laharpur (Sitapur), followed by Sitapur (7·43), Tilhar (Shahjahanpur) (5·85) and Nagina (4·80) and the lowest (·01) each in Moradabad and Ali-garh, followed by Agra and Amroha with ·02 each.

Cholera in urban
areas.
(Statement VIB.)

5. The total number of deaths from cholera in rural areas during the year was 59,142 against 47,469 in the preceding year. The respective death-rates were 1·40 and 1·12. Of the districts exclusive of towns returning highest death-rates, Gonda with a death-rate of 4·27 topped the list. Then in order came Gorakhpur with 4·21, Basti with 3·95, Bareilly with 3·11 and Kheri with 2·42. The number of deaths (2) reported from each of the districts of Agra and Jalaun was too small to yield a ratio. The

Cholera in rural
areas
(Statement VIA.)

lowest ratio (.01) was recorded in each of the districts of Saharanpur and Almora. The next lowest ratios .02 and .04 were reported from Muttra and Meerut, respectively.

(For further details please refer to paragraphs 9 to 16 of Chapter IX.)

PLAGUE.

Deaths and death-rate from plague in the province. (Statement XII.)

6. There was a decrease of 26,818 deaths from plague during 1930 as compared with the preceding year, the figures for the two years being 10,860 and 37,678, respectively. The death-rates were, respectively, .24 and .83. The mean for the previous five years was 1.06. The highest mortality (2,978) was reported in March and the lowest (25) in July.

Plague in districts inclusive of towns. (Statement XII.)

7. The highest mortality was noticed in the Ghazipur district where the death-rate stood at 2.03. Then followed Saharanpur with 1.19, Azamgarh with 1.00 and Moradabad with .80. The districts of Dehra Dun, Meerut, Bulandshahr, Muttra, Agra, Mainpuri, Etah, Farrukhabad, Etawah, Allahabad, Jhansi, Jalaun, Hamirpur, Banda, Mirzapur, Almora, Lucknow, Unao, Rae Bareli, Hardoi, Gonda, Bahraich and Partabgarh were entirely free from plague, while the number of deaths reported from Aligarh, Cawnpore and Fatehpur was too small to yield a ratio.

Plague in urban areas. (Statement VIB.)

8. The death-rate from plague in towns was .14 in 1930 as compared with .58 in 1929. Seventy-five out of 92 towns were entirely free from the disease, while in 12 the number of deaths did not exceed 10. Of the five towns which recorded more than 10 deaths, Lakhimpur, Gorakhpur and Roorkee were most conspicuous yielding death-rates of 8.23, 2.65 and 1.63, respectively.

Plague in rural areas. (Statement VIA.)

9. The rural areas of the province reported 10,419, deaths from the disease in the year under report against 35,905 in the preceding year, the death-rates for the two years being .25 and .85, respectively. Ghazipur with a death-rate of 2.12 stood first. It was followed by Saharanpur, Azamgarh and Moradabad with 1.34, 1.02 and .95, respectively. Twenty-five districts were immune from the disease. Only one death was reported from Fatehpur. The lowest death-rate (.01) was returned in each of the districts of Naini Tal, Garhwal and Sultanpur.

(For further particulars, please see Chapter IX.)

SMALL-POX.

Deaths and death-rates from small-pox in the province (Statement VIII.)

10. Small-pox was responsible for 11,071 deaths in 1930 against 11,725 in 1929. The death-rates for the two years were .24 and .26, respectively, and the quinquennial average .19. Of the 11,071 deaths, 3,198 occurred among children under one year of age, 4,961 between the ages 1 to 10 years and the rest among adults. The heaviest mortality (2,091) was recorded in April and the lowest (96) in October like the two preceding years. A separate report on vaccination appears as Chapter XIV of this report.

Small-pox in districts inclusive of towns. (Statement VIII.)

11. Mortality from this cause was most marked in the districts of Ghazipur (1.17), Budaun (1.09), Bijnor (.95), Jalaun (.91) and Moradabad (.70). The lowest mortality (.02) was recorded in each of the districts of Kheri and Bahraich. Rae Bareli, Gonda and Bara Banki followed with a death-rate of .03 each.

Small-pox in urban areas (Statement VIB.)

12. Altogether 1,501 deaths from small-pox were registered in 1930 in towns having a population of 10,000 and upwards as compared with 3,254 in 1929. The rates for the two years were .49 and 1.07, respectively. No deaths were reported from 19 towns while in 42 towns the number of deaths did not exceed 10. The highest death-rates 6.99, 6.89, 4.48 and 4.11 were recorded, respectively, in Kiratpur (Bijnor), Konch (Jalaun), Pilibhit and Laharpur (Sitapur).

Small-pox in rural areas. (Statement VIA.)

13. The disease claimed 9,570 deaths during the year under report against 8,471 in 1929, the death-rates for the two years being .23 and .20, respectively. The districts of Ghazipur, Budaun, Bijnor, Jalaun and Moradabad reported the highest death-rate, viz., 1.21, 1.13, .85, .71 and .70, respectively.

Small-pox hospitals.

14. As stated in previous reports there are no regular small-pox hospitals in these provinces. In the subjoined table are given the particulars

of the patients treated in infectious diseases hospitals where such exist or in hospitals with infectious diseases wards :—

Serial number.	Name of place where the small-pox hospital is situated.	Number of patients treated in the hospital.	Vaccinal condition of the patients treated in the hospital.					Remarks.
			Vaccinated as evidenced by presence of one or more vaccination cicatrices.	Stated to have been successfully vaccinated, but no vaccination cicatrix present.	Stated to be unvaccinated or vaccinated unsuccessfully and no vaccination cicatrix present	Previously unvaccinated, but vaccinated during incubation of small-pox	Stated to have been successfully re-vaccinated.	
1	Dehra Dun city ..	20	15	..	5	..	..	17 patients were discharged as cured and 3 died in the hospital.
2	Hardwar ..	6	2	..	4(a)	..	1(b)	5 recovered and 1 died.
3	Muttra ..	6	6	..	..	..	..
4	Agra city ..	3	3	..	..	..	..
5	Etah ..	25	..	..	3	..	..	There are no small-pox hospitals in the district. The patients were treated in fixed dispensaries as out-door and in-door patients.
6	Pilibhit ..	2	..	..	..	..	..	One was cured and the result of the other was not known.
7	Cawnpore ..	22	8	..	14	..	..	9 patients were cured of whom 5 were vaccinated and 4 unvaccinated and 2 died which were all unvaccinated. The result of the remaining 10 was not known.
8	Jhansi ..	84	..	..	..	..	..	Treated in hospitals and branch dispensaries.
9	Naini Tal (Manora hospital).	14	11	..	*3	..	..	*Died.
10	Kashipur (district Naini Tal).	6	2	..	4	..	..	One death occurred amongst unvaccinated persons.
11	Jasipur (district Naini Tal).	1	..	..	1	..	..	No death.
12	Imperial Institute of Veterinary Research dispensary, Muktesar (district Naini Tal),	4	4	..	..	..	..	Ditto.
13	Haldwani (district Naini Tal).	15	..	..	15	..	..	6 deaths occurred amongst unvaccinated persons.
14	Almora city ..	1	1	..	..	..	1	
15	Fyzabad-Ajodhia Infectious Diseases Hospital.	7	..	..	5	1	1	
16	Lucknow city ..	7	1	..	6	..	..
17	Infectious Diseases Hospital, Benares	33	18	3	12	..	..	There were 5 deaths of which 2 were vaccinated and 3 unvaccinated.
18	Banda (Sadr and Police Hospitals).	2	1	1	..	..	..

(a) Three unvaccinated and one vaccinated unsuccessfully.

(b) Re-vaccinated unsuccessfully.

FEVERS.

15. During 1930, fevers accounted for 942,469 deaths as compared with 810,583 deaths in 1929 representing death-rates of 20·77 and 17·86, respectively. The quinquennial average was 18·10. The maximum mortality (94,621) was recorded in June and the minimum (57,485) in February.

Deaths and death-rates from fevers in the province (Statement IX.)

According to sub-classification 832,113 deaths were reported to be due to malaria, 10,017 to enteric fever, 19,878 to measles, 1,244 to relapsing fever and 322 to kala azar. For reasons given in the previous reports these figures are not reliable.

Fevers in districts inclusive of towns.
(Statement IX.)

16. The districts recording the highest mortality from fevers were Bareilly (37·83), Jhansi (36·89), Pilibhit (35·69), Hamirpur (33·26) and Naini Tal (29·71). The lowest death-rates were returned from Ballia (12·49), Gonda (13·64), Jaunpur (13·69), Basti (13·97) and Dehra Dun (15·11).

Fevers in urban areas.
(Statement VIB.)

17. The death-rate from fevers in towns in 1930 was 18·26 against 19·65 in 1929, the actual number of deaths during the two years being 55,393 and 59,600, respectively. The highest death-rate was recorded in Jhansi (40·22), Mau (Jhansi) (39·67), Brindaban (39·16), Soron (37·50) and Lalitpur (37·29). Of the towns showing the lowest death-rates the most prominent were Mussoorie (2·09), Naini Tal (4·53), Chandausi (4·82), Ballia (4·94) and Mubarakpur in the Azamgarh district (6·40).

Fevers in rural areas.
(Statement VIA.)

18. The rural areas of the United Provinces recorded 887,076 deaths from fevers during 1930 against 750,983 in 1929, the death-rates for the two years being 20·95 and 17·73, respectively. Bareilly with a death-rate of 41·20 stood first. Jhansi (36·97), Pilibhit (36·23), Hamirpur (33·35) and Naini Tal (31·31) recorded the next highest death-rates.

Relapsing fever, enteric fever and kala azar.
(Statement VIA.)

19. 1,244 deaths were reported in the province from relapsing fever, 10,017 from enteric fever and 322 from kala azar. A comparative table showing the evidence of these diseases as reported by the verified as well as the unverified agencies is given in paragraph 34 of Chapter II. Special reports received from the civil surgeons and district medical officers of health show that there was no epidemic of relapsing fever in any district.

Influenza.

20. There was no epidemic of influenza in the province during the year. Only mild sporadic cases occurred in some districts.

Tuberculosis.

21. The report of the Anti-tuberculosis League, Lucknow, shows that through the strenuous efforts of the League the total amount in hand for the establishment of a special tuberculosis hospital up to the close of the year was Rs. 1,30,092.

Further steps to popularize the interest in the establishment of a tuberculosis hospital are constantly taken by the League in the shape of vigorous anti-tuberculosis propaganda work, particularly by a very large number of mohalla lectures. At these mohalla lectures the public is exhorted to consider the establishment of special hospitals a necessity and to induce them to pay their contribution for the proposed hospital for Lucknow.

DYSENTERY AND DIARRHOEA.

Deaths and death-rates from dysentery and diarrhoea in the province.
(Statement X.)

22. The total number of deaths due to dysentery and diarrhoea during 1930 was 16,224 (7,813 dysentery and 8,411 diarrhoea) against 14,865 in 1929. The corresponding death-rates for the two years were ·36 and ·33, respectively, and the quinquennial average ·28. The maximum number of deaths (2,205) occurred in August, while February returned the minimum (508) as in the last several years.

Dysentery and diarrhoea in districts inclusive of towns.
(Statement X.)

23. As usual, Garhwal stood first in returning the highest mortality, the death-rate being 3·95. The next highest death-rates were reported from Almora (1·62), Lucknow (1·28), Moradabad (1·08) and Dehra Dun (1·04). The districts returning the lowest mortality from these causes were Partabgarh with a death-rate of ·02, Mainpuri with ·03, Basti with ·04 and Gonda and Kheri with ·08 each.

Dysentery and diarrhoea in urban areas.
(Statement VIB.)

24. The ratio of deaths per 1,000 of the population during the year under report was 3·04 as compared with 2·76 in the preceding year. Three out of 92 towns did not return any death from these causes. In 13 the number of deaths did not exceed 10. Of the remaining towns, Atrauli, as usual, recorded the highest mortality with a death-rate of 8·06. The other towns returning the highest death-rates were Sambhal (7·14), Hathras (6·78), Aligarh (6·38) and Kashipur (6·24).

Dysentery and diarrhoea in rural areas
(Statement VIA.)

25. These diseases contributed 6,991 deaths in the rural areas in 1930 as compared with 6,489 in 1929. The rates for the two years were ·16 and ·15, respectively. The highest mortality rates were noticed in Garhwal (3·95), Almora (1·62), Dehra Dun (·58) and Naini Tal (·53). The lowest death-rate (·02) was reported from each of the districts of Agra, Mainpuri, Etawah and Partabgarh.

RESPIRATORY DISEASES.

26. Respiratory diseases were reported to have caused 34,791 deaths during the year under report against 33,532 in the preceding year, the death-rates for the two years being .77 and .74, respectively. The mean for the previous five years was .68. The maximum number of deaths (3,310) was returned in September and the minimum (2,381) in July.

Deaths and death-rates from respiratory diseases in the province. (Statement XI.)

27. Among the districts returning the high mortality from these causes Hamirpur with a death-rate of 8.53 and Lucknow with 4.50 retained their positions as first and second, as usual. Then in order came Agra, Dehra Dun and Cawnpore with 3.11, 2.96 and 2.49, respectively. Mainpuri and Basti returned the lowest mortality, the death-rates being .04 and .07, respectively, and were followed by Kheri, Sultanpur and Partabgarh with .08, .10 and .130, respectively.

Respiratory diseases in districts, inclusive of towns. (Statement XI.)

28. The total number of deaths from these diseases in the towns during the year was 24,377 against 24,453 in the preceding year. The death-rates per 1,000 of the population were 8.04 and 8.06, respectively. Of the towns showing the highest death-rates, Pilibhit with 19.08, Agra with 16.46, Farrukhabad with 15.43, Lucknow with 14.29, Cawnpore with 13.89, Rae Bareilly with 13.47 and Kashipur with 13.24 were the most conspicuous. Five towns out of 92 did not report any death from these causes, while the number of deaths in six towns did not exceed 10. The lowest death-rates were returned in Sherkot (.14), Kairana (.18), Mainpuri (.21), Shahabad (.48) and Atrauli (.61).

Respiratory diseases in urban areas. (Statement VIB.)

29. These diseases were responsible for 10,414 deaths in 1930 and for 9,079 deaths in 1929. The resulting ratios per 1,000 of the population during the two years were .24 and .21, respectively. Of the districts showing the heaviest mortality, Hamirpur with a death-rate of 8.67 stood first and was followed by Almora with 1.17, Dehra Dun with 1.15 and Garhwal with .89. The lowest mortality was recorded in Mainpuri (.02), Jaunpur and Bahraich (.04 each), Benares, Gorakhpur and Fyzabad (.05 each).

Respiratory diseases in rural areas (Statement VIA.)

INJURIES.

30. During the year under report altogether 2,434 deaths were recorded under the head "injuries". Of these 113 were suicides. Wounds or accidents claimed 2,186, snakes and wild beasts 95 and rabies 40.

Deaths from several minor causes in towns (Statement VIB.)

31. In 1930, 18,051 deaths were due to injuries. Of these 1,733 were suicides 11,343 were due to wounds or accidents, 4,485 to snake bites and wild beasts and 490 to rabies.

Deaths from several minor causes in rural areas. (Statement VIA.)

(Further details will be found in statement VI.)

ALL OTHER CAUSES.

32. Deaths registered under this head numbered 28,762 giving a death-rate of 9.48 in the year under report against 27,205 and 8.97, respectively, in the preceding year.

Deaths and death-rates under the heading "All other causes" in towns. (Statement VIB.)

33. During the year under review 108,124 deaths were registered under this head as compared with 93,329 in the preceding year. The death-rates for the two years were 2.55 and 2.20, respectively.

Deaths and death-rates under the heading "All other causes" in rural areas. (Statement VIA.)

34. During 1930 deaths in urban and rural areas from child-birth numbered 1,159 and 804, respectively, as compared with 1,189 and 758 in 1929.

Deaths from child-birth. (Statement VIA.)

35. As already mentioned in the last year's report there is a centre for the free treatment of venereal disease at the King George's Hospital, outpatients' department, Lucknow, with a staff consisting of one honorary surgeon, one compounder and one sick attendant. Owing to financial stringency Government has not so far been able to make any provision for the enlargement of this centre which is urgently needed.

Venereal disease

CHAPTER IV.

URBAN SANITATION (INCLUDING NOTIFIED AREAS).

Medical Officers
of Health in
municipalities

There were 20 medical officers of health of class I employed in the 1st and 2nd class municipalities and 13 of class II in third class municipalities during the year under report. The municipalities of Kasganj, Khurja, Sambhal, Bulandshahr and Banda, which were brought on the list of 3rd class municipalities required to employ a medical officer of health a few years ago, could not be supplied with medical officers of health during 1930 also on account of continued financial stringency. The question of the appointment of a Medical Officer of Health by the Gorakhpur Municipal Board is still hanging fire, but it is expected that one will be appointed in 1931.

District Medical
Officers of Health
and notified
areas.

2. District Medical Officers of Health having been formally appointed *ex-officio* medical officers of health of notified areas, a set of model rules defining the duties and powers of these officers in their capacity of *ex-officio* medical officers of health of notified areas was circulated by Government for adoption by the notified areas concerned with any unimportant amendments which any committee desired to make.

Sanitary
Inspectors.

3. There were 15 chief sanitary inspectors and 147 sanitary inspectors employed in the various municipalities of the province. The post of one chief sanitary inspector in each of the municipalities of Fyzabad and Muttra and of one sanitary inspector in each of the municipalities of Shahjahanpur and Mirzapur remained vacant during the year under report in spite of repeated requests made to the local authorities concerned. The cases of Shahjahanpur, Mirzapur and Fyzabad were reported to Government, but no appointments have so far been made. The Municipal Board of Muttra after a great deal of correspondence have agreed to appoint a chief sanitary inspector during the current year.

General state
of sanitation of
municipalities
and notified
areas.

4. The general state of sanitation of municipalities and notified areas during the year 1930 varied in different places. The Director of Public Health and Assistant Directors inspected a large number of such areas and made recommendations to the local boards concerned. Action was taken in some cases but generally the local bodies are very dilatory in taking action.

When a board persistently neglects to carry out recommendations and its sanitary administration goes on deteriorating, the matter is reported to the Board of Public Health or the Government. Recently I have had to bring the names of several municipalities to their notice. Necessary action was taken in each case.

Conservancy
system.

5. The conservancy system of some of the larger towns was very bad. The town of Shahjahanpur is full of flies due to the primitive method of disposal of night-soil that obtains there. Encroachments over drains, the removal of which has been urged for the past ten years and more, and which constitutes a serious obstacle to the cleansing of drains, still remain. Conservancy carts and appliances in many towns are not kept in proper repair. In many places the number of sanitary conveniences, staff and appliances is far below the standard laid down by the department. Some of the boards, however, are anxious to improve the sanitary condition of their municipalities and have begun to show signs of better sanitary administration.

In Lucknow there have been numerous complaints from the public about general sanitary condition and the fly-nuisance. Dr. Mitra, then officiating Assistant Director of Public Health in charge of the II Range, was directed to make a thorough inspection of the municipality, ward by ward, in the hot weather and rains of 1930. He reported after an exhaustive survey that the surface cleanliness of the town was not satisfactory, that on account of shortage in staff, the back lanes were not kept clean, silt in drains is allowed to remain unremoved for long periods and that the dumping grounds are very close to habitation and are a fruitful source of fly-nuisance. The drainage of the town, on inspection, disclosed a most deplorable state of affairs. The western intercepting sewer was choked with silt and was broken in places, allowing sewage to flow direct into the river Gomti and the sewage in Eastern intercepting sewer constantly overflowed through the manholes. The working of the pumping station left much to be desired.

The sewers which overflow during the slightest rain, require more manholes, flushing tanks and suitable cleansing chambers. They had not been cleaned after the last two floods and are getting more and more choked. The existing staff is inadequate. The municipal board, to whom this report was forwarded, stated that they realized the necessity for an increase in the conservancy staff, but could not provide additional funds on account of financial stringency. This is the excuse given in nearly every case and this excuse continues to be put forward year after year whether there has been a general complaint of financial stringency or not. The situation is the same whether the town is sewered or unsewered and has or has not a piped water-supply.

6. The present position of medical officers of health in the administrative system of municipalities is unsatisfactory. For powers which they are required to exercise in the course of their daily duties they have to depend on delegation by Executive Officers and their orders are also appealable to the latter. I have been endeavouring to get the United Provinces Municipalities Act amended so as to secure to medical officers of health all health powers by statute, for the exercise of which they may not have to depend on formal delegation by Executive Officers. It is possible this amendment may be passed during the year 1931.

Executive powers of medical officers of health.

7. Infectious diseases hospitals at present exist in a few of the larger towns and pilgrim centres. The necessity for properly equipped hospitals is keenly felt in cholera season when people seek admission to general hospitals for treatment and cannot be admitted there. One drawback to the establishment of infectious diseases hospitals by municipal boards is that the staff for the greater part of the year, when epidemics are not prevalent has to remain idle. In order to obviate this difficulty and also to popularize such hospitals I have applied for Government sanction to address certain larger of the municipal boards that specialized treatment of all infectious diseases be undertaken at these hospitals where they exist so that the public who will acquire the habit of resorting to such hospitals for the treatment of minor infectious diseases may be willing to go there when suffering from the major infectious diseases, such as cholera, plague and small-pox. The staff of the hospital will also be kept engaged throughout the year. Where infectious diseases hospitals do not exist it is proposed to utilize one of the municipal dispensaries for the purpose. Sanction of Government to this proposal is awaited.

Infectious diseases hospitals.

8. It has not been possible, up to the time of writing, to obtain detailed figures of expenditure by municipal boards and notified area committees on public health or to check the figures supplied by some of them. The figures show unusual variations from 55 per cent. in Dehra Dun to 20 per cent. in Fyzabad.

Expenditure by municipal boards on public health.

MUNICIPAL WATER SUPPLIES.

9. Statements showing the results of the chemical and bacteriological analyses of municipal water supplies for the year 1929-30 prepared in the Provincial Hygiene Institute were submitted to the provincial Board of Public Health. The results were fairly satisfactory, except in the case of Dehra Dun and Naini Tal. The attention of the boards concerned was drawn to the matter.

10. At Benares the daily consumption of water per head of the population during 1930 was 36 gallons as against 31.5 gallons in the preceding year. The increase in the consumption of water is stated to be due to the running of the plant with electrically driven pumps and simultaneous supply to the high and low zones. During the last few years alternate supply was given to the high and low levels as the old plant was incapable of meeting the demand. The total number of house connexions is now 14,597 against 14,612 in the preceding year.

Benares water supply.

Three samples of water were analysed chemically with satisfactory results. Of the 589 samples examined bacteriologically 14 were declared unsatisfactory.

All the samples were examined by the municipal medical officer of health.

Lucknow water supply.

11. At Lucknow 30 gallons of water were consumed daily per head of the population during the year under report as against 23·7 gallons in 1929. The increase is attributed to the extension of the mains in several mohallas and sale of water. 735 house connexions were made in 1930, bringing the total number up to the end of the year to 10,703.

Out of the 12 samples of water examined chemically 7 were declared potable. Of the 301 samples analysed bacteriologically 106 were found unsatisfactory. As in previous years, all the samples were analysed at the Provincial Hygiene Institute.

Cawnpore water supply.

12. At Cawnpore the daily consumption of water per head of the population during 1930 was 37 gallons as compared with 37·8 gallons in 1929. The number of house connexions rose from 8,859 in 1929 to 9,658 in 1930. Six samples of water were examined chemically, all with good results. 1,268 samples were examined for colony count. Of these 51 showed unsatisfactory results, but these samples were of raw water. Also 1,214 samples were tested for lactose fermenters, out of which 107 gave unsatisfactory results.

All the samples were examined by the local medical officer of health.

Agra water supply.

13. At Agra the daily consumption of water per head of the population during 1930 was 30·3 gallons as compared with 30·4 gallons in 1929. The number of house connexions rose from 5,106 in 1929 to 5,319 in 1930. Eight samples of water were examined chemically—all with good results. 410 samples were analysed bacteriologically and 103 for B. Coli tests with satisfactory results.

All the samples were analysed by the medical officer of health.

Allahabad water supply.

14. At Allahabad the average quantity of water consumed daily per head of the population in 1930 was 38·9 gallons against 33·5 gallons in 1929. The increase was due to increased supply of water, after completion of the re-organization of pumping plants. The number of house connexions at the close of the year under report was 6,691 against 6,460 in the preceding year.

Eight samples of water were examined chemically and 693 bacteriologically by the medical officer of health, except four which were examined by the Assistant Director of Public Health bacteriologically. Of the former all showed good results, except that in six free ammonia was a little higher than the standard fixed, while in the case of the latter 18 were unsatisfactory.

Mirzapur water supply.

15. At Mirzapur the daily consumption of water per head of the population during 1930 in the area having a piped water supply was 21·7 gallons as against 18·5 gallons in 1929. House connexions now number 2,642, 59 connexions having been made in 1930. 96 samples were analysed during the year, 2 chemically and 94 bacteriologically, by the Assistant Director of Public Health (Provincial Hygiene Institute) and the medical officer of health, respectively. All showed good results.

Muttra water supply.

16. At Muttra the quantity of water consumed daily per head of the population during 1930 was 13·5 gallons as compared with 14 gallons in 1929.

The number of house connexions rose from 1,725 in 1929 to 1,798 in 1930. Five samples were examined chemically, all with good results. 114 samples were analysed for colony count test and 71 for lactose fermentation. Of the former three samples showed colonies over 100 per c.c., while of the latter three were unsatisfactory. The work was carried out by the medical officer of health.

Meerut water supply.

17. At Meerut the daily consumption of water per head of the population during the year under report was 15·7 gallons against 14·7 gallons in 1929. The total number of house connexions at the close of the year was 1,988 as compared with 1,906 in 1929. The medical officer of health analysed eight samples of water chemically and 398 bacteriologically. All gave satisfactory results.

Dehra Dun water supply.

18. At Dehra Dun the daily consumption of water per head of the population during 1930 was 9 gallons as in the preceding years. House connexions now number 54. Twelve samples of water were examined chemically at the Provincial Hygiene Institute and the water was declared potable. Seven samples were also tested for hardness, three at the municipal

laboratory and four at the Provincial Hygiene Institute. 109 samples were analysed bacteriologically—at the municipal laboratory (83), the Provincial Hygiene Institute (22) and the Brigade laboratory, Dehra Dun (4). Out of these 53 were unsatisfactory.

19. At Mussoorie the quantity of water consumed daily per head of the Mussoorie water population during 1930 was 26·1 gallons against 26·6 in the preceding year. supply. The total number of house connexions at the close of the year was 638, of which 10 were made during the year under report. Five samples of water were analysed chemically with satisfactory results. Out of the 87 samples of water analysed bacteriologically only one was unsatisfactory. All the samples were analysed by the medical officer of health.

20. At Naini Tal 13 gallons of water were consumed daily per head of Naini Tal water the population in 1930 against 12 gallons in 1929. At the end of the year supply. under report house connexions numbered 436 against 406 in 1929. Four samples were analysed chemically. Although hard, the water was declared potable. Of the 113 samples analysed bacteriologically 21 gave unsatisfactory results. The analyses were done partly at the Municipal laboratory, Naini Tal, and partly at the Provincial Hygiene Institute.

21. At Hardwar the quantity of water consumed daily per head of the Hardwar water population during 1930 was 20·1 gallons against 19·2 gallons in 1929. The supply. total number of house connexions since the opening of water-works up to the end of the year was 214, 27 connexions having been made in 1930. Eight samples of water were analysed chemically, all with good results. Of the 1,049 samples of water analysed bacteriologically, 571 were from the Ganges. Of the remaining 478 samples 236 were tested for colony count and 234 for B. Coli. Of the former 25 and of the latter 39 were found unsatisfactory. Out of the 571 samples from the Ganges water tested for the presence of cholera vibrios 45 gave bad results. All the analyses were done by the medical officer of health.

22. At Unao the quantity of water consumed daily per head of the Unao water population was 16·3 gallons against 9·9 gallons during 1929. The increase supply. in the consumption of water is stated to be due to the heavy demand for water. The total number of house connexions since the opening of water-works to the end of December, 1930 was 177 against 176 in 1929. Two samples of water were analysed chemically and declared to be satisfactory. Of the 27 samples analysed bacteriologically 13 were unsatisfactory. All the analyses were made at the Provincial Hygiene Institute, Lucknow.

23. At Fyzabad during the year under report 14·3 gallons of water Fyzabad water were consumed daily per head of the population against 13·9 gallons in 1929. supply. The total number of house connexions since the opening of water-works up to the close of the year was 1,178, 150 connexions having been made in 1930. Two samples of water were analysed chemically and 135 bacteriologically by the medical officer of health, all with satisfactory results.

24. At Jhansi 6·3 gallons of water were consumed daily per head of Jhansi water the population in 1930 against 5·5 gallons in 1929. Only seven house con- supply. nexions were made during 1930, bringing the total up to the end of the year to 85. No analyses were done during the year under report as no provision was made by the municipal board in their budget to meet the necessary expenditure. They propose to do this in 1931-32.

25. As usual in Benares, Cawnpore, Agra, Allahabad, Muttra, Meerut, Municipal Mussoorie, Mirzapur, Fyzabad and Hardwar the analysis of samples of water laboratories. was carried on by medical officers of health in municipal laboratories. During the year a laboratory was opened by the municipal board of Naini Tal also, and the testing of samples of water is now carried on by the medical officer of health locally.

The Assistant Directors of Public Health of the ranges take samples of water from municipal water-works having their own analysts and send them periodically to the Assistant Director of Public Health (Provincial Hygiene Institute) or carry out the examination themselves to exercise a check.

CHAPTER V.

RURAL SANITATION.

Agricultural
and economic
conditions.

The agricultural conditions during 1930 have been described by the Director of Agriculture, United Provinces, as follows:—

In the first quarter of the year there was general rain which was beneficial to the standing crops. Muttra suffered from scarcity; fodder was scarce and forest hay had to be imported; relief works had to be opened. The average outturn of the *rabi* crops, 1929-30, was about 90 per cent. of the normal as a whole.

The *kharif* sowings commenced later than usual and continued throughout July.

* * * * *

There was no rain in the first three weeks of December, but the falls received in the fourth week were general and beneficial. The season was unfavourable to both early and late rice, the outturn of early rice was estimated at 60 per cent., and that of late rice at 65 per cent. of the normal. Cotton yielded 855 per cent. of the normal, and the outturn of other *kharif* crops ranged from 75 to 90 per cent.

The locust visitation of the autumn of 1929 had been properly dealt with and, except for some swarms in the hills, the province was practically clear. A fresh invasion, however, began in February, 1930 and was much worse than that of the previous autumn. The districts most seriously affected were Bijnor, Meerut, Moradabad and Bulandshahr, but the Government Entomologist organised protective measures and succeeded in bringing the pest under control, so that the damage to crops was comparatively slight. The total cost incurred by Government over control of the locusts was about Rs. 4.10 lakhs.

There was ample employment for the labouring and agricultural population, but the condition of agricultural classes is not reported satisfactory owing to the continual falling off of the prices of food grains.

The following table shows the average prices in seers per rupee of the chief food crops during 1930:—

—				Wheat.	Barley.	Gram.	Rice.
January	..	..	..	7.90	10.70	7.39	6.15
February	..	..	..	8.62	11.29	8.12	6.23
March..	..	..	..	9.15	13.05	8.76	6.20
April ..	..	..	..	10.19	14.42	10.40	6.40
May ..	..	..	..	10.78	15.40	10.47	6.48
June ..	..	..	..	11.24	16.23	10.80	6.35
July ..	..	..	..	11.15	16.73	11.60	6.45
August..	..	..	..	11.43	16.66	11.21	6.36
September	..	..	..	12.81	19.26	11.74	7.05
October	..	..	..	13.38	20.23	12.30	8.30
November	..	..	..	14.66	24.31	14.22	9.24
December	..	..	..	15.14	25.04	15.34	10.23

The District Health Service.

2. The District Health Service is still in force in 28 districts and proposals for its extension to four new districts, namely, Meerut, Budaun, Jhansi and Banda were accepted by Government, but owing to financial stringency Government have had to refuse this extension. It is a pity that the progress of the department in this particular must be postponed especially in view of the fact that many district boards are prepared to pay their share of the cost, which is a proof of the utility of this organization and the popularity it enjoys. It is generally recognized that the effective control of epidemics cannot be organized and measures for the improvement of rural sanitation cannot be initiated or properly controlled without this service.

Proposals for the further extension of this service will be made when more funds are available.

Below are given extracts from the remarks of certain officers regarding the utility of the service and the good work done as expressed in their reviews on the annual reports of District Medical Officers of Health:—

Chairman, District Board, Muzaffarnagar.—“The district board highly appreciates the blessings of the Public Health department . . . The work done in this respect (i.e., village uplift) is very much gratifying considering the deep-rooted insanitary condition of the rural areas. . . The school boys and teachers trained by the health staff in Hygiene and First-aid know their job very well. The boys generally look cleaner than before on account of . . . lectures given at the time of their (health staff's) visit to schools The scheme has fully justified its existence in this short period of a couple of years. The scheme is working well and is becoming popular among the masses.”

Commissioner, Rohilkhand division (for Moradabad district).—“I think some of the work done is beginning to have an effect I saw in Amroha tahsil work done on promising lines, and I hope this will be followed up.”

District Magistrate, Moradabad.—“With regard to rural sanitation I have noticed a great interest being taken in the measures advocated by the department”

Chairman, District Board, Moradabad.—“The department is steadily making headway in the rural areas and is proving useful to the public. The attitude of the villagers appears to have been considerably changed and they have begun to appreciate the sanitary work done by the health staff During my tour I found the villages cleaner and more sanitary. Definite improvement has been made in the storage of manure heaps and water supply of the villages.”

Chairman, District Board, Allahabad.—“The inhabitants of the rural areas show greater interest in the sanitary measures today than they did ever before, as a result of the extensive publicity work in these areas.”

Chairman, District Board, Ghazipur.—“The efforts of the public health staff have been very successful in preventing plague and cholera. . . . The Public Health staff's good work is well appreciated by me and the public and there is increasing demand for their help, particularly during the epidemics.”

District Magistrate, Ballia.—“I was particularly impressed during the cold weather tour with the immense work done by your (District Medical Officer of Health's) department in promoting hygiene education in rural areas. I found the boys in almost all the village schools thoroughly trained in lessons of first aid.”

Commissioner, Kumaun division (for Naini Tal district).—“ I noticed a good deal of activity during my last tour and the people seem hopeful that good results will accrue in time.”

Chairman, District Board, Lucknow.—“This (the cholera) epidemic might have been more serious but for the preventive measures taken by the department.

The work which was done by the department in connexion with malaria epidemic is specially praiseworthy.

Appreciable work was done in connexion with rural sanitation.”

Deputy Commissioner, Unao.—“The department is making real efforts in effecting sanitary improvements of village sites and in going through several villages of this district. It has been most pleasing to note the measure of success that has been achieved.

I conclude my review with a reiteration of my admiration for the work already done, my confidence in the further success of the work of this department, my belief that it has done, is doing and will continue to do a work of real benefit to the district, and my thanks to the department generally and the officers attached to this district in particular.”

Chairman, District Board, Kheri.—"The Health staff has fully justified its existence in this district."

Deputy Commissioner, Kheri.—"They (the District Health staff) had to work strenuously in combating the epidemics of cholera and plague, and but for their efforts the loss of human life might have been greater. They are also doing useful work in the sphere of 'village uplift', training of village aiders, and the work done by village dispensaries is specially to be commended."

Deputy Commissioner, Gonda.—"The District Health staff do excellent work at local fairs."

Commissioner, Fyzabad division (for Bahraich district).—"The district health staff has carried out its duties creditably. It has now become the main agency for enforcing byelaws passed by the district board in villages. . . ."

Chairman, District Board, Bahraich.—"It was due to the interim energy of the district medical officer of health, his assistant and the sanitary inspectors that it (the cholera epidemic) did not take a more serious turn. It is with great pleasure that I express my appreciation of their work and keen interest in their duties. It is a matter of satisfaction that the public has begun to appreciate the work of this department."

Deputy Commissioner, Bahraich.—"In dealing with it (the cholera epidemic) the health staff did useful work for which they deserve credit."

Deputy Commissioner, Sultanpur.—"I appreciate the good work done by the health staff during the year. A keen interest was taken by the district medical officer of health in popularizing the whole scheme, and the whole staff took pains to arrest the spread of epidemics when they broke out."

Chairman, District Board, Partabgarh.—"I congratulate the district medical officer of health for the excellent work done by the district health staff during the year 1930. I specially commend the work in connexion with schools."

Deputy Commissioner, Partabgarh.—"I would specially commend the work done in village schools in connexion with the Junior Red Cross Society."

Deputy Commissioner, Bara Banki.—"Excellent work has been performed by the department."

Chairman, District Board, Bara Banki.—"It is a matter of satisfaction that the public has begun to appreciate the work of the department."

District Magistrate, Azamgarh.—"Dr. . . . and his staff have no doubt done creditably well throughout the year and deserve thanks of the public of the district. For a big district like this the staff with him is certainly not adequate, and I think he should have at least one more assistant medical officer of health, because he with only two assistants cannot properly supervise the whole district and cannot properly cope with the work during the prevalence of epidemics."

3. The need for the expansion of the present health organisation in districts is continually being felt as the sphere of its activities is expanding in various directions. With the sanction of Government the district board of Gorakhpur have started a small scheme of expansion in two tahsils of their district as an experimental measure. The scheme consists in the division of the rural area of the two tahsils into small sanitary circles of seven miles radius and placing of a resident public health official in charge of it for performing vaccination, registration of vital statistics, anti-epidemic work and disinfection of wells, hygiene publicity, village aid work and training of villagers, supervision of general cleanliness and enforcement of district board byelaws, training of *dais* and distribution of quinine. The scheme aims at concentration of various activities of public health work in a small area, and its results will be watched with interest. This scheme has been advocated by me for some years but has never been brought into being owing to lack of funds.

Expansion of the present health organisation.

4. Voluntary organizations for the improvement of rural sanitation are springing up in different parts of the province. A comprehensive organization called the "*Taraqqi Sabha*" has been formed in Pilibhit district, with the District Magistrate as President, to bring simple medical aid within the

Rural reconstruction and up lift committee.

reach of villagers and further the improvement of rural sanitation along with improvement of crops and cattle. The Public Health department have deputed two reserve officers to organize and supervise the public health portion of the work. Annual reports of district medical officers of health also contain references to local "uplift" or "better living" societies that have been established in certain villages in the interior. The movement, if properly guided, is likely to be of considerable benefit in creating a demand for better sanitation and educating the rural population.

5. When epidemics are not present, the energies of the labour gangs are concentrated in selected villages where they construct soakage pits, dig manure trenches and improve wells under the guidance of sanitary inspectors, and demonstrate to the villagers how to make them. Sanitary inspectors thereafter request villagers to construct similar pits and trenches and to store their rubbish in them. **Labour gangs.**

6. From reports received from district officers it appears that these village panchayats are gradually taking more interest in the improvement of their water supplies and other sanitary measures. The employment of part-time sweepers which was first suggested to these bodies in 1926 is now more or less an established practice in areas where funds and sweepers are available. The duties of these sweepers are to keep the roads and lanes of the villages and the surroundings of wells in a reasonable state of cleanliness. Many panchayats are maintaining village aid dispensaries, and a few of them also supply simple midwifery boxes to indigenous *dais*. Progress is not, of course, uniform throughout all panchayats because much depends upon (i) the personality of the *sarpanch*, (ii) availability of funds and (iii) freedom from party factions, but as a result of frequent visits paid by the health staff these bodies are beginning to take some interest in the sanitary condition of their villages. **Village panchayats.**

7. Progress with the "village aid" scheme has been very marked as the figures given below will show :— **Village aid scheme.**

—	Up to end of 1929.	Up to end of 1929.	Up to end of 1930.
1. Number of sanitary wells	285	731	1,594
2. Number of village aid dispensaries ..	154	1,199	1,501
3. Number of villages in which the complete scheme is in force.	266	648	982
4. Number of villages in which part of the scheme is in force.	1,075	3,085	3,793

8. The drugs supplied to these dispensaries were brought more in line with the immediate requirements of the inhabitants of the villages. These dispensaries are very popular and their usefulness is evident from the increase in attendance during the malaria epidemic in the affected villages. **Village aid dispensaries.**

9. The cleanliness of the villages under the scheme has also improved. Disinclination is still met with in certain parts to the proper storage of manure and rubbish, and complaints are also made that soakage pits are not cleaned of their filth (which should be done once in six months), but it is hoped that the propaganda conducted by the district health staff, backed up by mild enforcement of legislation, will secure the object in course of time. In attempting to eradicate age-long customs progress has perforce to be cautious. **General cleanliness of villages.**

10. The training of village "aiders" has also progressed satisfactorily the object of this training being, as stated in previous reports, the provision of *guidance* or *assistance* in villages in case of accidents and epidemics. The training consists of simple methods of dealing with common accidents and epidemic diseases. Many instances have been reported during the year 1930 where the training thus imparted has been of help in saving life in cases of snake-bites, scorpion-bites and suspected cholera. **Training of village aiders.**

Model byelaws

11. As a result of the amendment of the United Provinces Village Sanitation Act in 1929 all responsibility in regard to village sanitation was transferred to district boards for regulation by byelaws. A set of model byelaws for (i) construction and protection from pollution of the village water supplies, (ii) regulation of the village drainage, (iii) regulation of the deposit or storage of manure and rubbish in villages and the fouling of village sites, (iv) regulation of excavations, and (v) ruined houses and unhealthy buildings was drafted in my office and submitted to Government who circulated them to district boards. If they are adopted and properly enforced they will be an important aid to the improvement of rural sanitation.

Rural water-supplies.

12. Improvement of water supplies is the chief desideratum in the improvement of rural sanitation. Under the amended United Provinces Village Sanitation Act (which now deals mainly with the construction and repairs of wells and epidemics) rules have been issued by the Government laying down, among other things, that (1) Collectors may make advances to villagers for cleaning and repairs of wells, provided adequate security is furnished, (ii) the advances will be free of interest and recovered within a period not exceeding two years, and (iii) the Board of Public Health should estimate the amounts required by Collectors for the purpose and place the requisite amounts at their disposal. These rules will go a long way towards assisting villagers to improve their water supplies.

Public health work.

13. In the financial year 1930-31 the Board of Public Health made grants aggregating Rs. 2,91,387 for public health works in notified areas, town areas, panchayats and other villages.

Expenditure by district boards on public health.

14. During the year 1929-30 the total income of the district boards in the United Provinces from all sources including Government grants was Rs. 1,99,69,635, and from their own sources (i.e., excluding Government grants) Rs. 1,12,58,888. Against this a total expenditure of Rs. 689,680 was incurred on public health including vaccination. The receipts of the district boards solely for public health purposes (whether from the Government or otherwise) amounted to Rs. 3,27,952, so that their expenditure from their *own sources* was Rs. 3,61,728 only. Of this Rs. 3,12,100 was spent on vaccination, expenditure on which is obligatory on the boards by rules made by Government. Voluntary expenditure by the boards on general health improvements, etc., for which no special grants were made to them, was therefore only Rs. 49,628 or 0.04 per cent. of their own income (viz., Rs. 1,12,58,888), which is very insignificant and deplorable.

Last year the boards spent nearly one per cent. of their total income under this head, so that there has been a considerable reduction due no doubt to the great economic stress in rural areas.

This lack of grants from the district boards for expenditure on sanitary improvements, is a great drag on the work of the district health services which are continually retarded in their work by lack of funds.

Previously district magistrates used to allot considerable sums to them from the funds of villages under the Village Sanitation Act and the panchayat villages, but now that these funds accrue to the district boards district medical officers of health find that they cannot get the same grants as they used to from the district magistrates.

CHAPTER VI.

PUBLIC HEALTH ADMINISTRATION.

The financial condition of Government continued to be unsatisfactory during the year under report as a result of which most of the proposals relating to the expansion of the department had to be held up. Budget grants for the department.

The budget allotments for the years 1929-30 and 1930-31 for the Public Health Department including the budgets of the Superintending Engineer and the Board of Public Health amounted to Rs. 28,51,804 and Rs. 24,37,838, respectively, while those for the heads administered by the Director of Public Health amounted to Rs. 14,24,107 and Rs. 14,10,316, respectively. The expenditure against these latter grants was Rs. 14,20,060 and Rs. 13,68,977, respectively.

For the year 1931-32 the new demands of the Director of Public Health amounted to Rs. 63,611 recurring and Rs. 40,651 non-recurring. Most of these demands were administratively approved by Government but funds could not be allotted on account of financial stringency. The school health service has been sanctioned by Government with effect from July 1, 1931, by restricting expenditure under other heads of the Public Health budget and by the abolition of the four posts of assistant medical officers of health (on general duty). A sum of Rs. 23,88,495 has been passed in the budget of the department for 1931-32 out of which a sum of Rs. 15,15,178 represents the budget of the Director of Public Health. If the condition of the provincial finances does not improve during the next year (1932-33) as well, the new demands of the department will have to be postponed until the conditions are favourable.

The receipts of the department aggregated Rs. 3,61,320 during the year 1929-30 and Rs. 2,25,000 during 1930-31. Receipts in the neighbourhood of these figures are also anticipated during the year 1931-32. The receipts against the budget of the Director of Public Health for the year 1929-30 and 1930-31 amounted to Rs. 1,22,827 and Rs. 1,26,083, respectively. It is estimated that the receipts during the year 1931-32 will amount to Rs. 75,000.

PERSONAL PROCEEDINGS AND TOURS OF OFFICERS, ETC.

A.—Director of Public Health.

2. The charge of the office of the Director of Public Health was held by me from January 1 to March 11, 1930, when I proceeded on eight months and three days' leave after giving over charge to Lieut.-Colonel W. A. Mearns, I.M.S., who held that office until November 14, 1930. I took over charge again on November 15, 1930, and held it till the end of the year. During the year I made detailed and thorough inspections of the Magh (Kumbh) Mela arrangements at Allahabad and inspected in Cawnpore, Agra and other places, including a number of villages, the multifarious activities of the department. Colonel Mearns visited Allahabad, Bareilly, Benares, Fyzabad, Gorakhpur, Jhansi, Agra, Meerut, Dehra Dun, Mussoorie and Cawnpore and inspected general sanitation, child welfare centres, infectious diseases hospitals, municipal laboratories and water-works in these towns. He also inspected the candidates for sanitary inspectors' class at divisional headquarters.

The Government Bovine Lymph Dépôt, Patwa Dangar, was, as usual, inspected by Colonel Mearns in April and October.

The meetings of the Indian Red Cross Society, Lady Chelmsford Maternity and Child Welfare League, the State Medical Faculty, the United Provinces Medical Council and the Board of Public Health were as usual attended by Colonel Mearns and myself. Colonel Mearns was nominated a member of the Legislative Council in July in connexion with the Adulteration Bill, and attended the session of the Council held in that month. He also attended the meetings of the United Provinces branch of British Medical Association, Building Board and the United Provinces Committee of the British Empire Leprosy Relief Association.

I conducted the examination of Part I of the Sanitary Inspectors' class, while Colonel Mearns conducted the examinations of the D. P. H., the L P.H. and the Sanitary Inspectors' class, Part II.

B.—Assistant Directors of Public Health.

First range.—The charge of this range was held by Rai Bahadur Dr. K. L. Chaudhri, O.B.E., D.P.H., Assistant Director of Public Health, throughout the year.

During January and February Dr. Chaudhri was in charge of the scheme for the medical inspection of pilgrims visiting the Kumbh Mela, Allahabad, by rail. He inspected the districts of Meerut, Bulandshahr, Aligarh, Moradabad, Bareilly, Etah, Pilibhit, Mainpuri, Muttra, Agra, Budaun, Shahjahanpur and the towns of Meerut, Dehra Dun, Rajpur, Mussoorie, Kosi, Aligarh, Brindaban, Muttra, Shahjahanpur, Bareilly and Fatehpur-Sikri. He also visited Hathras and Hapur in connexion with certain important departmental inquiries and Saharanpur and Budaun in connexion with the district health service.

He inspected the rural uplift work in many districts of the range. This work is being pushed on with great vigour, especially in the district of Meerut.

He supervised the anti-rat campaigns which are now very popular in a number of districts. Aligarh, Muttra, Agra and Bareilly have done excellent work, and all these places with the exception of Bareilly have been free from plague since the scheme has been started.

He organized and supervised the sanitary and medical arrangements of the following fairs :—

- | | | |
|-------------------------|---|---------------------------------|
| (1) Dikhauti. | } | Hardwar. |
| (2) Somwati Amawas fair | | |
| (3) Shahkumberdevi fair | } | Saharanpur district. |
| (4) Piran Kaliar fair. | | |
| (5) Garhmuktesar fair | } | Meerut district. |
| (6) Nauchandi fair | | |
| (7) Somwati Amawas, | | Rikhikesh (district Dehra Dun). |

Second range.—During the year under report the charge of this range was held by the following officers for the periods noted against each :—

Lieut.-Colonel W. A. Mearns, I.M.S., from January 1 to March 11, 1930, and from November 15 to December 3, 1930.

Dr. M. N. Mitra, D.P.H., from March 12 to November 14, 1930, and again from December 4 to 16, 1930, in addition to his duties as Assistant Director of Public Health (Hygiene Publicity Bureau).

Rai Bahadur Dr. K. P. Mathur, D.P.H., from December 17 to 31, 1930.

These officers also held the charge of the Epidemiology branch of this office in addition to the ordinary duties of the range.

Inspections were made in the districts of Lucknow, Sitapur, Kheri, Unao, Hardoi, Bahraich and Rae Bareilly by Colonel Mearns and Dr. Mitra.

The medical and sanitary arrangements of the following fairs were supervised by Dr. Mitra :—

- (1) Ram Naumi fair at Ajodhya.
- (2) Syed Salar fair at Bahraich.
- (3) Amawas fair at Nimsar.
- (4) Sawan Jhula fair at Ajodhya.
- (5) Kartiki fair at Ajodhya.

Colonel Mearns inspected the railway inspection posts established at border and important en-route stations in the United Provinces and municipal infectious diseases hospitals at Muttra and Benares in connexion with the Kumbh Mela, Allahabad, for 1930. He inspected ten schools under the treatment of "Simple Ailment Scheme" in the Sitapur district and the working of the village aid scheme in some villages of the Unao district. Dr. Mitra inspected certain schools in the Sitapur, Unao and Rae Bareilly districts in connexion with village aid work and the child welfare centre in the Lucknow Cantonment. He also inspected the Lucknow Central Jail at the request of the Inspector-General of Prisons in connexion with the incidence of tuberculosis in that jail.

Dr. Mitra inspected anti-cholera measures in the districts of Gorakhpur, Basti, Fyzabad, Gonda, Sultanpur, Bara Banki, Partabgarh, Bahraich, Rae Bareli, Sitapur, Hardoi and Kheri and anti-plague measures in the districts of Sitapur and Kheri.

Dr. Mitra conducted the D. P. H. examination and the selection of candidates for the L.P.H. class. He also conducted the analysis of water of the Fyzabad water works.

Third range.—The charge of the office of the Assistant Director of Public Health, 3rd Range, was held by Rai Bahadur Dr. K. P. Mathur from January 1 to December 9, 1930, and for the remaining 22 days of the year by Dr. L. K. Ray, who was appointed to officiate as an Assistant Director of Public Health in the leave arrangement of Colonel Mearns.

During the early part of the year Dr. Mathur was mostly busy with the arrangements of the Kumbh fair held at Allahabad during the months of January and February and in dealing with accounts and other correspondence relating to that fair. The report on this fair forms Appendix E to this report. He also supervised the medical and sanitary arrangements of the Dadri fair at Ballia, the Dipmalika fair at Chitrakote in the Banda district, the Lunar Eclipse fair at Benares and the Kartiki Puranmashi fair at Sheorajpur in the Fatehpur district.

He inspected and supervised anti-cholera measures in certain villages of the districts of Gorakhpur, Basti, Azamgarh, Allahabad, Jhansi, Hamirpur, Fatehpur, Cawnpore and Banda and in the municipalities of Farrukhabad and Etawah. He inspected the Allahabad and Jhansi districts, the Ballia, Azamgarh, Ghazipur, Farrukhabad, Etawah, Fatehpur, Mau and Jaunpur municipalities the notified areas of Mahoba and Gorakhpur and the town areas of Basti, Ranipur (Jhansi) and Siswa Bazar (Gorakhpur). The village aid and rural uplift work in the villages of Mirzapur and Allahabad districts was also inspected.

The travelling dispensaries working in the range and the child welfare centres at Jhansi and Ghazipur were inspected. The question of the extension of the district health service to the several districts to which the scheme has not been extended in this range was discussed with the chairmen and members of the district boards concerned.

A part of the examination of the D.P.H. and L.P.H. classes was conducted by Dr. Mathur.

CHAPTER VII.

PROVINCIAL HYGIENE INSTITUTE.—ITS INVESTIGATIVE AND RESEARCH WORK.

Staff.—Rai Bahadur Dr. D. D. Pandya, D.P.H., was Assistant Director of Public Health (Provincial Hygiene Institute), United Provinces, throughout the year.

Dr. J. T. Cornelius, D.P.H., worked as 1st lecturer throughout the year, except for the period from April 24, 1930 to July 22, 1930, when he was on leave.

Dr. H. G. D. Mathur, D.P.H., held charge of the office of 2nd lecturer from January 1 to 2 and from February 10, to the close of the year. He was on leave from January 3 to February 9, 1930, during which time Dr. K. N. Segal officiated for him.

Dr. K. N. Segal, D.P.H., was 3rd lecturer for the whole year, except from June 3 to June 30 when he was on leave.

Dr. Niranjan Singh, L.P.H., was posted as a reserve medical officer on special duty at the Provincial Hygiene Institute from August 22, 1930. From October 12 to November 13 he worked as a medical officer in charge of a reserve Travelling Dispensary in the Lucknow district. Since his reversion to his duties at the Institute he has been engaged on general laboratory work and on preliminary tests in connection with the scheme for the local manufacture of cholera vaccine.

2. *Buildings.*—The cooling chamber was completed and tested by the P. W. Department, and observations will be made to ascertain its efficiency and the approximate cost of running it during the hot season.

As pointed out in previous years the present accommodation is totally inadequate for the growing educational and research needs of the Institute.

The necessity for the extension of the building is keenly felt as the Malaria branch, the Epidemiology branch and the Public Analyst's branch are still without any permanent and satisfactory accommodation. These branches represent important activities of the Public Health Department, and they would have suitable accommodation in the proposed extension of the Provincial Hygiene Institute. It is hoped that the Government will realize the need for the extension of the building and provide funds for it in the near future.

3. *Museum.*—The anatomical models are made use of in the teaching of Anatomy to the students of the Sanitary Inspectors' class, Part I. They are also used for instructing nurses undergoing training at the King George's Hospital.

The museum has continued to grow in popularity and drew on 173 persons who visited it during the year under report. Some of these visitors were teachers and students from the Girls' Normal School and from the Muslim Girls' School who were conducted through the museum under purdah arrangements.

About 175 Bacteriological, Parasitological and Epidemiological charts were prepared by the Institute artist under the direction and supervision of the officers of the Institute. They are of great educational value and provide a considerable amount of illustrative material for lectures and propaganda purposes.

4. *Library.*—Owing to financial stringency many important books of reference could not be purchased for the library. Every effort is being made, with the limited funds available, to add to the present collection of books on Public Health and Hygiene, so that the usefulness of the library may be

increased for educational and research purposes. It is hoped that the Institute will possess before long a well equipped library which will serve as a central reference library for the Department.

5. *Routine Investigative work.*—Routine bacteriological and chemical analyses of samples of water from public water supplies of Lucknow, Naini Tal and Dehra Dun municipalities as well as of samples from Unao, Naini Tal, Jaunpur, Bareilly and Garhwal districts and Kosi Kalan notified area were carried out. Some samples were also received from the Executive Engineer, Well Boring Operations division, for analysis. Altogether 590 samples were tested bacteriologically and 79 were analysed chemically.

Inquiries were made from, and advice was given to, the medical officers of health of various municipalities on the basis of the weekly reports of results of examination of water-supplies carried out by them.

6. *Special and investigative work. I.—Bacteriological.*

(1) Dead rats were examined to ascertain their rôle as endemic agents in the causation and spread of plague.

(2) Specimens of stools from suspected cases of cholera received from some districts were examined.

(3) Special tests on water samples from Lucknow municipality were carried out to find out the cause of the unsatisfactory condition of the water-supply during and after rains.

(4) Samples of tinned food were examined bacteriologically for the presence of food-poisoning micro-organisms.

(5) The Rideal-Walker Co-efficient for some samples of disinfectants was determined.

(6) Preliminary experiments for the preparation of cholera vaccine are being carried out in the bacteriological laboratories.

II.—Chemical.

(1) Samples of water from certain springs in the Vindhya Range in Mirzapur district were analysed to determine if the water possessed any medicinal properties.

(2) A number of samples of water from Dehra Dun municipality were examined to estimate the amount of lime and soda ash required for softening the water supply, which is very hard.

(3) Samples of human milk from a patient in the King George's Hospital were chemically examined to see if the mother's milk was responsible for persistent bowel trouble in the infant.

7. *Miscellaneous scientific and literary activities of the staff.*

(1) A paper entitled "Some observations on bacterial variation in a strain of *P. Suisepica*" by Dr. J. T. Cornelius, was accepted for publication in October, 1930 in the Indian Journal of Medical Research.

(2) "The Report on the Study of Comparative Mortality figures of major municipalities in the United Provinces", prepared by Dr. B. S. Yajnik, under the guidance of the officers of the Institute, was published by Government.

(3) "Dietaries for cultivators", by Dr. B. S. Yajnik, which was closely revised by the officers of the Institute, was also published by Government.

(4) Four interesting papers were read by the students of the D. P. H. classes under the auspices of the Provincial Hygiene Institute Club on "Sewage disposal", "Malaria", "Active immunization in Tuberculosis" and "District and rural health schemes".

(5) An appraisal form adapted to measure Public Health activities in these provinces, by Dr. J. T. Cornelius, for the use of medical officers of health, is under preparation.

8. *Training of Public Health personnel.*

(a) The details of teaching work carried out at the Institute are given in the following table:—

Statement showing the number of students trained and examined at the Provincial Hygiene Institute during 1930.

Session, 1929-30.					Session, 1930-31.			
Name of class.	Number of students in the class.	Examination, April, 1930.			Supplementary Examination, October, 1930.			Number of students in the class.
		Month.	Number appeared including those who failed at previous examinations.	Number of successful candidates.	Month.	Number appeared.	Number of successful candidates.	
Under-graduates undergoing training for the M.B., B.S. degree in Hygiene.	43	April, 1930	44	34	October, 1930.	12	12	29
Post-graduates (Members of the Provincial Medical Service).	..	..	..	..	..	..	..	10
D. P. H. (Part I) ..	14	April, 1930	15	11	October, 1930.	3	3	3
D. P. H. (Part II) ..	14	Ditto ..	14	11	Ditto ..	2	2	14
L. P. H. (Part I) ..	19	Ditto ..	20	17	Ditto ..	1	1	..
L. P. H. (Part II) ..	19	Ditto ..	23	15	Ditto ..	8	6	20
Sanitary Inspectors (Part I).	38	February, 1930.	37	21	..	..	..	..
Sanitary Inspectors (Part II).	..	..	..	..	November, 1930.	40	28	40
Chief Sanitary Inspectors	..	March, 1930	7	3	..	..	..	..
Grade Examination of Medical Officers in-charge of Travelling Dispensaries.	..	May, 1930	16	13	October, 1930.	2	2	..
Health Visitors, Part I	..	..	..	..	November, 1930.	6	6	6
Part II ..	10	March, 1930	10	8	..	..	..	..
Post-Graduates (I class Medical Officers of Health).	..	..	..	..	..	..	..	..
Post Licentiates (II class Medical Officers of Health).	..	..	..	..	..	..	..	10*
Laboratory attendant trained.	1	..	..	..	..	..	..	..

* One left the class owing to illness.

(b) *Post-Graduate course in Public Health.*—The Post-Graduate course for the 2nd class medical officers of health was started in July, 1930, and it was conducted by Rai Bahadur Dr. D. D. Pandya along with the officers of the Institute and by other officers of the Public Health Department. The course for the 1st class medical officers of health was not held, as there was not a sufficient number of eligible officers for admission to the course this year.

(c) A course in Malariology was given at the Provincial Hygiene Institute by the Assistant Director of Public Health (Malariology) in November, 1930, to six medical officers of health.

(d) Dr. F. Maya Das, Medical Officer of Health, Mussoorie, was deputed for a course of training in the bacteriological examination of water supplies from December 1, 1930 to December 23, 1930.

9. *Health School*.—Dr. D. F. Das, L.M.P., continues to hold charge of the school as its Lady Superintendent.

(1) In February, 1930, the Hazratganj centre was taken over and is being worked by the Health School along with others having been placed under the supervision of the Superintendent of the Health School. The centres are becoming more and more popular. Interesting features of the work worthy of mention are that expectant mothers are taking advantage of the facilities offered to them at the centres and that there is evidence of closer co-operation between the Maternity Provincial Training and Child Welfare centres, since the cases conducted by the midwives and the pupil midwives of the Provincial Training centre are taken over by the staff of the Health School after 10 days. The mothers are encouraged to be confined in the centres where there are sufficient medical and nursing facilities, and there they are also taught to knit garments for infants.

(2) The Superintendent delivered lectures in various girls' schools on Public Health subjects in compliance with the request of the Assistant Director of Public Health (Hygiene Publicity Bureau), United Provinces.

10. *Production and exhibition of cinema films on health subjects.*

(a) *Preparation of new films.*

(1) The two cinema films "Maternity, Hygienic and Unhygienic" and "Allahabad Kumbh Fair, 1930" were completed during the year.

(2) Arrangements for the production of the following two films have also been made :—

(a) A film on Physical Culture.

(b) A Child Welfare film.

(b) *Preparation of extra copies of films for sale.*

(1) A copy of the film "A Lucknow Home" was prepared and supplied to the Sanitary Commissioner, Gwalior State.

(2) A copy of the film "Why die of cholera" was supplied to the Baby and Health Week Association, Bombay.

(3) A copy of the film "Why die of cholera" was also supplied to the Red Cross Society, Simla.

(4) A copy each of the following three films was supplied to the Honorary Secretary, Lady Chelmsford Maternity and Red Cross Society, Child Welfare League, United Provinces :—

(a) "Why die of cholera".

(b) "The tragedy of Small-pox".

(c) "Our greatest enemy".

(5) Orders for the supply of the following films were received during the year and have been registered for 1931 :—

(a) An abridged copy of "A Lucknow Home" for the Red Cross Society, Simla.

(b) A copy of "Why die of cholera" from the Honorary Adviser, Public Health, Travancore State.

(c) *Cinema Shows.*

Altogether 120 shows were held during the year under report with a total attendance of 170,900 persons approximately.

The films produced at the Provincial Hygiene Institute were shown in these provinces in the Allahabad Kumbh Fair, Allahabad City and Cantonment, Lucknow, Gorakhpur, Dalmau, Unao, Orai, Kalpi, Agra, Cawnpore, Ghazipur (Fatehpur), Lalitpur, Bulandshahr, Fatehpur, Partabgarh, Bahraich, Muttra, Brindaban, Muzaffarnagar, Sultanpur, Sitapur, Meerut, Dehra Dun, Haldwani (Naini Tal), Bareilly and Benares and outside these provinces in Simla.

The demand for public health films produced at the Institute and the cinema exhibitions is steadily growing in strength and popularity.

CHAPTER VIII.

MALARIA BRANCH—ANTI-MALARIAL OPERATIONS—SPECIAL INQUIRIES
AND INVESTIGATIONS, ETC.

The charge of this branch was held by Dr. A. C. Banerjea, M.B., D.P.H., throughout the year.

Assistants.—Dr. B. M. Roy, M.B., D.P.H., worked as Senior Assistant Malaria Officer till August 25, 1930, when he proceeded to England on study leave. Dr. P. N. Chatterji, M.B., D.P.H., worked as the Junior Assistant Malaria Officer till August 24, 1930, and thereafter as Senior Assistant Malaria Officer till the end of the year. Dr. H. H. Joffrey, M.B., D.P.H., was posted to the Malaria branch on August 25, 1930, as Junior Assistant Malaria Officer in the leave arrangement of Dr. Roy, and he held this post till the end of the year.

2. *Summary of work done.*

A summary of the activities of this branch is appended.

I.—*Anti-malarial works in the Sarda Canal zone.*—Anti-malarial works of a routine nature were continued in the Headworks area. The actual carrying out of these measures was left to the Irrigation department, who were advised from time to time to deal with special problems as they arose.

II.—*Anti-malarial works in the Tarai and Bhabar Government Estates.*—Anti-malarial works in the estates were as usual carried out under the guidance of this branch, the Chief Medical Officer being the officer in direct charge of the works.

The following extract is taken from the annual report of the Superintendent, Tarai and Bhabar Estates:—

“Anti-malarial works are in progress in parganas Bazpur and Gadarpur since 1926-27. Rs. 54,030 have been spent upto date on these works, the expenditure during the year being Rs. 19,465. Canals are being realigned, tanks are being filled and depressions are being drained. A few villages have also to be shifted to healthier sites. The tenants are fully alive to the advantages of the measures which are being taken and appreciate the work already done. At the present rate of progress it will take about three years to complete the works in these two parganas.”

The survey of Rudarpur pargana has been completed, and some measures are being taken in accordance with the recommendations made.

III.—*Post-graduate training in anti-malarial methods.*—Both theoretical and practical training in anti-malarial methods was given to the students of the D. P. H. and L. P. H. classes, four officers of the Provincial Health Service and two medical officers of travelling dispensaries. The officers of the Provincial Subordinate Service, i.e., Medical Officers of Health of class II, who were in post-graduate training at the Provincial Hygiene Institute in the year under report, were also given advanced training in Malariology with special reference to these provinces. This course also included field training. It is gratifying to note that local boards are now showing a growing interest in matters relating to the prevention of malaria.

IV.—*Malaria investigations.*—The following malarial surveys were carried out during the year:—

Lucknow municipality.

Gorakhpur municipality.

Brindaban municipality.

Ghorawal {
Barondh { Mirzapur district.

Etmadpur }
Shamsabad } Agra district.

Thakurdwara }
Hasanpur } Moradabad district.

Nautanwa, Gorakhpur district.

Villages of pargana Bara in the Allahabad district.

Afzalgarh, Bijnor district.

Goshainganj, Fyzabad district.

Partabgarh Bela, }
Partabgarh Katra, } Partabgarh district.

A few final reports on anti-malarial recommendations were drawn up and submitted to Government and the local authorities concerned.

V.—*Other places visited during the year.*—As many as seventy other towns and villages in various districts were visited for studying local conditions with a view to advise local authorities and to initiate control measures.

VI.—*Investigation and control of malaria epidemics*—(i) *Districts.*—The districts of Lucknow, Kheri, Bareilly, Fyzabad, Rae Bareli, Aligarh, Mirzapur, Bara Banki, Muttra, Pilibhit, Unao, Hardoi and Fatehpur reported epidemic malaria in the months of September and October. These epidemics were of a regional character in most districts, but in a few whole "tahsils" were involved.

Eight of the above thirteen districts were within the area commanded by the newly opened Sarda Canal, and these districts also showed a greater intensity of malarial incidence. It appears that the epidemic occurred owing to the heavy rainfall in the first half of the monsoon during July and August followed by a long break in the rains producing exceptionally favourable meteorological conditions for malarial transmission. The presence of canal irrigation was an additional factor in the causation of epidemic conditions in the majority of the districts.

All the affected districts were visited by the officers of the Malaria branch, and the organization of the distribution of cinchona was gone into to ensure the drug reaching the areas affected most and that no wastage occurred. In view of the fact that as many as eight districts out of the thirteen reporting malaria outbreaks in epidemic form were within the ambit of the newly opened Sarda Canal, and the fact that new canals usually reproduce conditions suitable for epidemic intensity, it is apprehended that the malaria situation in the tracts served by the canal will require very careful watching during the next ten years or so.

A careful investigation was conducted recently in the Hardoi and parts of the Lucknow districts in the irrigated zones, and it was found that the spleen indices of villages on or served by the new canals have gone up considerably as compared to control villages under identical conditions, but not served by irrigation channels. These villages before the introduction of the canals almost uniformly had low spleen indices like those which are away from canals. It was also reported that the mortality from fevers in villages within the canal zone during the last autumn was comparatively higher, particularly amongst the aged and children. The whole question of canal irrigation and malaria is being studied, and this will take up a large part of the attention of the Malaria branch for some years to come.

(ii) *Municipalities.*—The municipalities of Muttra, Brindaban and Lucknow reported outbreaks of malaria during the months of August, September and October and necessary preventive measures were undertaken.

The well problem together with the general problem of the drainage of the Lucknow city has been repeatedly brought to the notice of the municipal board as requiring serious attention. It cannot be said that the board have been able to do the utmost that is within their power in this connexion. It is unfortunately true, however, that the malaria situation in Lucknow is not at all likely to improve unless both these problems are thoroughly tackled.

VII.—*Spleen census of representative circles in districts with a Health Service.*—With a view to determine the prevalence of malaria amongst the school children in the spring and autumn malaria seasons the district medical officers of health were asked to conduct spleen examination of school children as far as possible.

The data available show that the highest spleen rates in the spring census were recorded in the districts of Mirzapur and Naini Tal, while in the autumn census these were recorded in the districts of Mirzapur and Unao.

Another outstanding feature has been a steep rise in the spleen indices in the autumn as compared to the spring figures in districts which reported malaria incidences in the autumn. For example, the Unao figure rose from 6.8 to 22.2 per cent., Lucknow from 6 to 11.4 per cent., Hardoi from 2.2 to 9 per cent., Fatehpur from 3.3 to 15.5 per cent., Bara Banki from 2.8 to 6.5 per cent., Mirzapur from 15 to 30.5 per cent., and Muttra from 5 to 9.7 per cent.

VIII.—*Anti-malarial measures through Scout organizations.*—There exists a very complete net work of Scout organizations in numerous parts of the province, particularly in the urban areas. The chief aim in invoking the aid of this organization is to enlist public co-operation in anti-malarial methods and stimulate interest in the malaria problem. The Sewa Samiti, Baden Powell and Junior Red Cross associations have been organized for this work. The scheme consists of—

- (i) A preliminary training of the Scout personnel with regard to the anopheline mosquito and its breeding grounds and simple ways of dealing with such breeding.
- (ii) Regular weekly inspections in the malarial seasons by each Scout group of the areas assigned to them for evidences of breeding of the anopheline mosquito and the collection of larvae and adult mosquito from these areas.
- (iii) Work of serving notices to the owners of the land in which anopheles are breeding.
- (iv) The despatch of larval and mosquito collections to the Malaria branch for examination and record through the local medical officers of health.

IX.—*Drugs Inquiry Committee—Cinchona products in the market and their value.*—The Drugs Inquiry Committee appointed by the Government of India visited Lucknow in November, 1930. A written reply to the questionnaire was sent to the Committee and oral evidence tendered during the Committee's sittings in Lucknow. Great emphasis was laid on cinchona standards with reference to the alkaloidal content which has been suggested to be not lower than 70 per cent. of crystallisable alkaloids. The question of extending cinchona plantation, the control of the price of the drug and its quality were also stressed.

X.—*Cinchona cultivation.*—The department has been looking for possible sites in the United Provinces which may from their topographical and climatic features prove likely sites for experiments in cinchona plantations. Nurseries were accordingly set up at Haldwani (district Naini Tal) by the Government Silviculturist in the year 1928, but these failed owing to unsuitable temperature and other climatic conditions. Experiments at higher elevations are now being carried out.

XI.—*Quinine and cinchona supply for malaria epidemics.*—The treatment of actual sufferers from malaria constitutes a most important method of control against rural malaria. The treatment accorded in hospitals and dispensaries affects about 5 millions of the total population of 45 millions in these provinces. The remaining 40 millions of the population represent the untreated masses. A provision of Rs. 5,000 exists in the budget of the department for distribution of quinine and cinchona in the whole province during malaria epidemics. Experience has shown that this grant is quite inadequate to meet the needs of the department. It is apprehended that most of the Oudh districts will soon be affected with malaria owing to the opening of new canal systems, and the situation may arise when demands for quinine and cinchona will enormously increase.

It is now being increasingly felt in districts with health scheme that there is a considerable demand for these drugs owing to increased fever incidence in summer and autumn.

To get some idea of the problem one has to fall back to the fever mortality returns. There are two distinct peaks in the fever mortality curves, one from April to July and the other from September to December. These peaks are comparable to the plague and cholera mortality rises, the difference being only that the latter diseases being of a more fulminant nature the curve declines to the zero level, whereas in malaria there is no such complete disappearance of the disease. It seems justifiable therefore to class the two seasonal rises above the mean line or the average for the year as epidemics and to find means to deal with at least the added incidence during these two seasons.

The fever deaths in excess of the average for the year represent the effects of epidemic conditions. One-fifth of such deaths may be taken as malaria deaths and one hundred times such malaria deaths may be taken as the number of cases of malaria.

According to the present requirements it appears that the allotment for this purpose should be at least Rs. 80,000. During the last autumnal malaria

epidemic it was only possible to meet this contingency by transferring the reserve stocks from unaffected districts to affected ones and by an additional grant of Rs. 2,000 besides the grants from local funds.

Improving the manufacture of quinine and cinchona tablets.—The present manufacture of quinine and cinchona tablets at the Aligarh Jail requires to be put on a proper business footing. There is an unusually large amount of filling material which besides being injurious to health hardens the tablets to such an extent that their absorption and assimilation in the body is very much impaired. The whole question is being investigated with a view to improve the manufacture of tablets and reduce their cost.

XII.—*Experimental anti-malarial schemes.*—(i) *Rural cinchonization scheme.*—This scheme was initiated in the year 1928, and it is undoubtedly extremely useful to rural population.

During 1930 it was in force in 33 villages of the Muzaffarnagar, Kheri, Muttra, Bulandshahr, Gorakhpur and Moradabad districts. The details of the scheme have already been reported to Government. As the work has been commenced in three new districts and new extensions effected to fifteen villages in the Gorakhpur district, no complete deductions are possible at this stage. There has, however, been a progressive decline in the spleen rates in the villages of the districts of Moradabad and Bulandshahr where the scheme has been in continuity since 1928. The total number of cases treated during the year was 6,360. The relapse rate after the first course was 8·85 per cent., after the second course 1·80 per cent., and after the third 1·17 per cent. The corresponding relapse figures for the year 1929 were 11·2 per cent. (after first course), 3·5 per cent. (after second course), and 1·5 per cent. (after third course). The percentage of cases requiring more than three days' standard treatment to total cases treated was 1·82 per cent.

Several other schemes on these lines embodying a sale scheme on a commission basis are before Government, and as soon as funds are available great impetus will no doubt be given to these.

(ii) *School cinchonization in Sitapur district.*—This scheme (originally introduced in 1928 to 116 schools in the Sitapur district) consists in the treatment of rural school children suffering from malaria by cinchona tablets supplied by the department. The scheme proved so popular that it had to be extended to 150 schools in 1929, where it was in operation in 1930. Each school teacher is stocked with cinchona and other drugs for the treatment of malaria and commoner ailments. The number of scholars cinchonized in 1930 was 8,988 against 6,263 in 1929, and the amount of cinchona consumed 77 lbs. and 60 lbs., respectively. 11,550 scholars were examined for spleen rates in 1930 against 8,500 in 1929. The spleen rate in all the schools under the scheme showed a marked fall, the average index being only 2 per cent., instead of 10 to 20 per cent., when the scheme was first introduced. The average attendance in malarial season in all the schools has also increased by 20 per cent., which is very satisfactory. Frequent requests to extend the scheme to other areas are being received, but there are limitations to further extension of free cinchona treatment schemes.

(iii) *Treatment of breeding sites with Paris Green and Dust mixtures.*—This method of checking malaria has proved very useful. Spleen indices invariably fell while there are appreciable reductions in the incidence of the disease. It is specially suited for urban areas, but its general use is not possible owing to the high cost involved.

(iv) *Use of larvicidal fish.*—This has been tried in a few localities under the supervision of the health staff. The method is of a limited use and cannot be advocated at the present stage for wholesale use in rural areas. It is of great use in places where local larvicidal fish abound and where enactments exist to preserve them.

(v) *Use of cactus as a larvicidal agent.*—This method is only applicable to localities where cactus grows wild. Places with high malarial endemicity abounding with cactus are not very common, and thus there are limitations to general adoption of this method. Moreover, running water surfaces would not lend themselves to treatment by cactus as all the paste once applied will be washed away before effective killing off of the larvae will have occurred.

(vi) *Tank edge treatment*.—This method is laborious and involves constant vigil against the inroads of the average villager and his cattle. It is however being tried in some villages as a part of the village aid scheme for demonstration purposes.

(vii) *Clover scheme*.—These experiments were started in consultation with the Agricultural department, and although seeds of various varieties of clovers were tried, satisfactory growth failed to result under field conditions in several parts of the province. The trial of this scheme in highly malarious villages requires the acquisition of land, and as the cost was prohibitive it was dropped. The Irrigation department, however, has been asked to try the scheme at Banbassa.

XIII.—*Restriction of canal irrigation into urban areas*.—The practice of resorting to canal irrigation into urban areas has before now led to a higher incidence of malaria in these areas. Several notable instances exist in these provinces and elsewhere in India of the evil effects of uncontrolled irrigation. With a view therefore to restrict canal irrigation in urban areas the Local Government have been pleased to order that the Public Health department should invariably be consulted whenever it is proposed to introduce canal irrigation into urban areas or within one mile of such areas.

XIV.—*Sale and distribution of quinine*.—During the year under report quinine worth Rs. 8,682 was issued by the Aligarh Jail for sale through post offices, land-lords, court of wards and ziladars and signallers of the canal department. Of this, quinine worth Rs. 8,407 was issued to post offices only. In addition to this 150 pounds were issued to the Epidemiology Branch for the use of travelling dispensaries and 11 pounds to the District Medical Officer of Health of Muzaffarnagar and Civil Surgeons of Aligarh and Farrukhabad for free distribution.

About 26 pounds of quinine and cinchona febrifuge were distributed by the Jail department to the prisoners and the staff.

CHAPTER IX.

EPIDEMIOLOGY BRANCH.

Staff.—This consisted of the Assistant Director of Public Health, II Range, who holds charge of the Epidemiology Branch in addition to his own duties, a staff of 4 assistant medical officers of health on general duty, a store-keeper and 43 travelling dispensaries, with a reserve of 14 medical officers. In addition to these 18 temporary medical officers were entertained either for the charge of the reserve travelling dispensaries or to deal with plague or cholera epidemics in various districts of the province.

Plague.

2. *Deaths from plague.*—There were 10,946 deaths from plague during the year under report, of which 10,860 occurred in the British districts and 86 in the Indian States.

The following table shows the total plague deaths in each epidemic and calendar year since 1903 :—

Epidemic year (from July 1 to June 30).

Years.	Deaths.
1903-04	129,525
1904-05	434,217
1905-06	60,767
1906-07	341,125
1907-08	23,646
1908-09	14,252
1909-10	166,360
1910-11	344,776
1911-12	120,271
1912-13	98,623
1913-14	116,561
1914-15	53,329
1915-16	45,528
1916-17	105,030
1917-18	206,190
1918-19	17,632
1919-20	24,002
1920-21	25,901
1921-22	18,263

Calendar year.

1923	74,187
1924	56,210
1925	42,091
1926	57,297
1927	15,570
1928	80,943
1929	37,678
1930	10,946

It will be noted that the incidence of plague has been much lower for the last two successive years, and the mortality for the year under report is the lowest on record since 1905. The year under review was a normal one in other respects, and no reason is apparent for the diminished prevalence of the disease.

3. *Course of the epidemic.*—At the beginning of the year 15 districts were infected against 32 in 1929, and the month of January showed 951 deaths. In February 18 districts were infected and there were 1,549 deaths. As usual March was the worst month. Twenty-two districts were infected and 2,978 deaths were recorded. April was another bad month with 23 districts infected and 2,639 deaths. In May 17 districts were infected, the disease showing a tendency to decrease owing to the onset of the hot weather. There were 909 deaths registered in this month. In June 12 districts were infected, but only 124 deaths were registered. In July only 5 districts were infected with the lowest mortality, viz., 25 deaths. In August and September there was again a tendency towards increase in the mortality, 49 and 33 deaths,

respectively, having been recorded. In the succeeding months the disease kept on steadily increasing with 102, 385 and 1,116 deaths, respectively (see statement XII), but the mortality remained low throughout the last cold weather (1930-31).

There was a little variation in the distribution of plague. It was mainly confined to the eastern districts of the province, but the epidemic in certain districts of the Meerut and Rohilkhand divisions has not yet been brought under control. Gorakhpur recorded the highest mortality, viz., 2,087. Next came Ghazipur with 1,587 deaths. Other heavily affected districts in order of severity were Azamgarh, Saharanpur, Moradabad, Kheri, Ballia, Basti, Fyzabad, Bijnor and Bara Banki.

4. *Plague by divisions (Jhansi, Allahabad and Agra).*—Jhansi division remained entirely free. The divisions of Allahabad and Agra were also practically free, the former reporting two deaths and the latter only one death.

Kumaun division.—This division recorded 18 deaths this year against 22 last year. Naini Tal returned 14 deaths against 22 and Garhwal 4 against nil last year. Almora again remained free. No death was reported from Tehri State.

Rohilkhand division.—The districts of this division were all infected, though none severely. Moradabad had 960 deaths, Bijnor 464, Bareilly 388, Budaan 161, and Shahjahanpur and Pilibhit 17 deaths each. One death was reported from the Rampur State.

Benares division.—2,242 deaths occurred in this division as compared with 8,894 deaths of last year. Mirzapur was completely free. Ballia recorded 586 deaths, Jaunpur 49 and Benares only 30 deaths. Ghazipur had 1,587 deaths, and was the worst infected district during the 12 months. Eighty-five deaths were reported from the Benares State.

Gorakhpur division.—This division accounts for more than one-third of the total plague mortality in the province. Gorakhpur headed the list with 2,087 deaths. Azamgarh and Basti reported 1,523 and 546 deaths against 8,056 and 3,635 deaths, respectively, of the last year.

Meerut division.—1,156 deaths were reported from this division, of which Saharanpur district was responsible for 1,118 deaths and that of Muzaffargarh for 38. The remaining districts of the division remained entirely free.

Lucknow division.—There were 637 deaths in this division against 2,158 last year. Of this total Kheri reported 507 and Sitapur 30, and the remaining districts were entirely free from infection.

Fyzabad division.—This year 631 deaths were recorded against 2,887 last year. The districts of Gonda, Bahraich and Partabgarh remained entirely free. The plague mortality in other districts as compared with last year was :—Fyzabad 498, Bara Banki 118 and Sultanpur 15 against 1,352, 900 and 28 (last year) respectively.

5. *Method of dealing with outbreaks.*—The methods chiefly relied on in dealing with outbreaks were inoculation and evacuation :—

Inoculation.—The total number of inoculations performed by different agencies including travelling dispensaries was 42,801 against 131,320 last year. The decrease is due to the fact that the plague epidemic was much milder this year. The attitude of the masses towards inoculation has undergone an appreciable change for the better during the last few years partly on account of propaganda by the health staff and partly owing to the general belief gaining ground in the public mind that injection therapy is the latest and the best remedy for preventive and curative purposes. Out of 42,801 inoculations 12,772 were performed by the travelling dispensaries, 1,144 by assistant medical officers of health on general duty and 20,370 by the District Health staff, and the remaining 8,515 were done by other agencies. 18,336 persons were inoculated against plague in several selected towns and villages leaving 238,792 uninoculated in those localities. Of the former only 5 died, while 1,193 deaths occurred amongst the latter, giving percentages of .03 and .50, respectively. This proves the efficacy of anti-plague inoculations.

Evacuation.—This continues to be a favourite anti-plague measure among the people, though it was not resorted to any great extent during the year under review owing to the mild nature of the epidemic.

Rs. 2,168 were placed at the disposal of the District Magistrates and Chairmen of district and municipal boards to assist the people in evacuating their houses and taking other anti-plague measures.

Rat destruction.—Organized work in connexion with the destruction of rats by trapping in order to endeavour to stamp out proved endemic foci was continued in a few selected municipalities and town areas in the 1st Range throughout the year. In addition it was introduced in the Muzaffarnagar municipality during the year under report. This measure it is hoped will eventually terminate the epidemic in the western districts now affected as it has done in the Agra division and certain districts of the Meerut division.

Considering the funds and the staff allowed for this work quite a large number of rats have been destroyed in the 20 places where this work has been in progress. In Bareilly the full staff was allowed for the year in order to endeavour to eradicate endemic foci of plague and to check the importation of plague into Naini Tal. 518,473 rats were caught and destroyed in this municipality during the year. The staff was reduced to one-third of the standard strength in all the other towns. In Aligarh, Muttra and Amroha the work has been most satisfactory.

The work of rat destruction was also carried out with good results in the Kheri, Unao, Sitapur and Lucknow districts in the 2nd Range, and in the Ghazipur municipality and in the Basti district in the 3rd Range.

A table showing the amount of work done in various ranges in connexion with the anti-rat campaigns is appended below :—

Serial number.	Locality.	Amount expended by Government on anti-rat campaign.	Number of rats killed.
	<i>I Range.</i>	Rs.	
1	Behari	250	704 (figures for the full period not available).
2	Eulandshahr district.. ..	200	18,529
3	Sambhal municipality	100	11,053 (up to July, 1930).
4	Agra municipality	400	29,716
5	Moradabad district	200	22,436
6	Muzaffarnagar municipality	200	25,700 (from August to December, 1930).
7	Aonla notified area	120	6,131
8	Meerut municipality.. .. .	30	4,705 (up to February, 1930).
9	Saharanpur municipality	200	11,995
10	Muttra municipality.. .. .	300	66,353
11	Eulandshahr municipality	100	8,915
12	Aligarh municipality	240	196,352
13	Amroha municipality	180	79,680
14	Moradabad municipality	240	3,242
15	Bareilly municipality	1,000	518,473
16	Hapur municipality	120	11,241
17	Hathras municipality	160	23,411
18	Ghaziabad municipality	120	20,459
19	Pilibhit municipality	200	42,711
20	Shahjahanpur municipality	240	16,823

Serial number.	Locality.	Amount expended by Government on anti-rat campaign.	Number of rats killed.
	<i>II Range.</i>	Rs.	
21	Lakhimpur municipality	210	8,000
22	Unao district .. ..	..	2,200
23	Sitapur district .. ..	..	2,50
24	Lucknow district	100	Not available.
25	Kashipur (district Naini Tal) .. ..	..	2,634
26	Haldwani notified area .. ..	..	5,549
	<i>III Range.</i>		
27	Ghazipur municipality	275	6,097
28	Basti .. ..	..	2,375
	Total	5,285	1,154,099

6. *Travelling dispensaries.*—The number and constitution of travelling dispensaries remained the same as it was last year. Forty-three travelling dispensaries worked throughout the year, out of which 36 are provincial, 6 district boards (viz., Bulandshahr, Muzaffarnagar, Pilibhit, Gonda and Gorakhpur), 1 Forest and 2 Tarai and Bhabar Government Estates. Each of these five district boards continues to contribute Rs. 1,000 per annum as usual towards the upkeep of their dispensaries, the rest of the cost being borne by Government. The Forest department pays wholly for the Forest travelling dispensary, and the Tarai and Bhabar Estates travelling dispensaries are maintained entirely at the cost of the estates concerned. The district board of Bulandshahr closed their travelling dispensary from March 31, 1931, and that of Muzaffarnagar closed their additional travelling dispensary from the same date pleading financial stringency.

The distribution of travelling dispensaries continues as before. Each district board travelling dispensary is attached to the district by which it is maintained. The Forest travelling dispensary, Kheri, works in the forest area and the two Tarai and Bhabar Estates travelling dispensaries remain attached to the Tarai and Bhabar Estates, and the provincial Public Health travelling dispensaries are deputed to districts according to the requirements of the province. They are moved frequently in accordance with the course of epidemics. These dispensaries have proved to be a most useful agency in dealing with outbreaks of plague and cholera. They are coming to be recognized as an established institution in these provinces and are enjoying an ever-increasing popularity.

In times of epidemic the demand for their services is so excessive that it is found impracticable to meet the demands of the district magistrates, district medical officers of health and civil surgeons with the existing number of Public Health travelling dispensaries, and the reserve travelling dispensaries, the equipment of which is kept stored at the headquarters of the districts, have to be mobilized. Twelve such dispensaries were opened during the year under review. They were placed either in charge of reserve medical officers, or if reserve medical officers were not available they were placed in charge of medical officers temporarily recruited by the department. Necessary drugs for the use of these dispensaries were supplied by the Epidemic Stores Godown, United Provinces.

The total number of patients treated (both new and old cases) by the travelling dispensaries was 210,315 against 201,458 last year. They also performed 1,945 minor operations.

7. *Educational work.*—Thousands of leaflets and booklets on relapsing fever, malaria, cholera, influenza and consumption were freely distributed to the literate public, and the illiterate patients attending the dispensary were explained the above literature by the medical officers.

8. *Plague epidemic in the western districts.*—Appended is a note showing the course of plague epidemic in the western districts of the province during the past several years.

Plague broke out in an epidemic form in the year 1925 in the districts of Saharanpur, Muzaffarnagar, Meerut, Bulandshahr, Aligarh, Muttra, Budaun and Shahjahanpur and in the towns of Gangoh, Hapur, Ghaziabad, Khurja, Sikandrabad and Hathras.

There was less mortality from plague in the year 1926 than in 1925 in the districts of Meerut, Bulandshahr, Muttra and Aligarh. There were more deaths in the districts of Saharanpur, Muzaffarnagar, Moradabad and Budaun, and it abated considerably in other districts. The towns of Gangoh, Hapur, Aligarh and Hathras remained infected with plague, and the towns of Agra, Bulandshahr and Meerut were newly infected; but other towns were more or less free from plague during the year.

There was a mild outbreak of plague in 1927 in the districts of Saharanpur, Muzaffarnagar, Meerut, Bareilly, Bijnor, Budaun, Moradabad and Shahjahanpur, and only sporadic cases of plague occurred in the towns of Jahangirabad, Muzaffarnagar and Kandhla.

In 1928 the epidemic did not abate in the districts of Saharanpur and Muzaffarnagar. All the districts of the Rohilkhand division showed increases in deaths from the disease, but the other districts remained more or less free from plague. The disease continued in Gangoh, Muzaffarnagar, Kandhla and Saharanpur towns and disappeared from all other towns. Dehra Dun was newly infected during the year.

In 1929 there was a considerable decrease in mortality from plague in almost all the districts of Rohilkhand division. Agra division, with the exception of Etah, was free from plague, and the mortality from plague also decreased in the districts of Saharanpur and Muzaffarnagar. With the exception of Gangoh, Deoband and Dehra, where only a few cases of plague occurred, all other towns were free from plague.

In 1930 the districts of Saharanpur, Budaun, Bijnor and Bareilly reported 1,118, 161, 464 and 388 deaths from plague, respectively. With the exception of Bareilly all the other towns remained free from plague.

The systematic destruction of rats by trapping was introduced in the year 1926, and disinfection of infected houses was carried out by various methods. In almost all cases rooms were evacuated and luggage and bedding and other articles exposed to the sun for several days. Anti-plague inoculation was also made popular in many towns and districts of this range.

Cholera.

9. *Deaths from cholera.*—The number of deaths from cholera during the last ten years was as follows:—

Years.							Number of deaths.
1921	..	..	..	..	..	..	149,667
1922	..	..	..	..	..	..	2,330
1923	..	..	..	..	..	..	2,591
1924	..	..	..	..	..	..	67,000
1925	..	..	..	..	..	..	7,653
1926	..	..	..	..	..	..	6,166
1927	..	..	..	..	..	..	28,285
1928	..	..	..	..	..	..	44,941
1929	..	..	..	..	..	..	50,924
1930	..	..	..	..	..	..	61,334

The following table shows that the total death-rate from cholera during the quinquennial period 1926—30 is about 17 per cent. lower than that in the preceding quinquennium. The urban death-rate has come down by over 20 per cent. and the rural death-rate by about 16 per cent. This reduction can only be due to the efforts of the Public Health Department in limiting out-breaks in each infected town and village, in spite of the number of infected towns and villages being greater. The increase in the number of infected towns and villages is attributable to the increasing facilities for travel from infected areas outside and inside the province.

This department has been unable to reduce this increase in the spread of infection, in spite of the inspection posts at border stations owing to the limited nature of its powers, under which it can only prevent persons actually showing clinical signs of cholera and actual contacts from entering the province, while those incubating the disease and ambulatory carriers coming from infected areas can still enter the province and start fresh epidemics.

This state of affairs is bound to continue unless the proposals which I have made from time to time to prevent travellers from infected areas entering the province are given effect to.

Year.	Cholera death-rate.	Towns.			Rural areas.		
		Urban death-rate.	Number of infected towns.	Mean number of deaths in infected towns.	Rural death-rate.	Number of infected villages.	Mean number of deaths in infected villages.
1921 ..	3.30	2.1	73	99.6	3.35	8,937	15.9
1922 ..	.05	.05	39	4.2	.05	355	6.1
1923 ..	.03	.17	44	11.7	.05	352	5.9
1924 ..	1.48	.63	71	26.8	1.51	9,332	7.0
1925 ..	.17	.19	57	10.0	.17	1,921	6.9
Mean ..	1.01	.73	58	30.5	1.03	3,999	8.4
1926 ..	.13	.09	44	6.3	.14	500	6.5
1927 ..	.62	.29	64	13.5	.65	4,092	6.7
1928 ..	.99	.67	74	27.6	1.01	5,928	7.2
1929 ..	1.12	1.14	70	43.7	1.12	5,066	7.9
1930 ..	1.35	.72	76	28.8	1.40	6,921	8.5
Mean ..	.84	.53	61	24.0	.86	4,761	7.4

10. *Course of epidemic.*—In Gorakhpur cholera was imported from Nepal during the last days of March. Mostly the disease occurred in villages on the borders of the Bihar province.

In Gonda deaths up to February were mostly amongst the pilgrims who had returned from the Allahabad Kumbh Fair, but a fresh outbreak occurred in a village on the border of Balraich district and the mortality rose in April and was highest in May and June. The disease began to decline from September. A full description of the outbreak of cholera in the mela and the measures adopted to combat it is given in Appendix D of this report.

All the Directors of Public Health were unanimous in stating that there was no appreciable increase in cholera which could be attributed to the Kumbh Mela, Allahabad. It, therefore, follows that there was no widespread outbreak of cholera in any province following the Kumbh Mela.

In Garhwal only 7 deaths from cholera were reported in the whole pilgrim route during the year 1930.

11. *Anti-cholera scheme.*—The anti-cholera scheme is now practically in force in all the districts of the province, but it could be given effect to fully only in the 20 districts comprised in Benares, Gorakhpur, Fyzabad and Lucknow divisions, where it was already in operation. Due to the paucity of funds, the supply of permanganate of potash and kaolin to the remaining districts was very limited.

The total quantities of permanganate of potash, kaolin and essential oils mixture supplied during the year from the provincial allotments were 46,583 lb., 1,599 lb., and 2,854 lb., respectively.

Temporary regulations.

12. Temporary regulations were framed under the Epidemic Diseases Act and enforced as necessity arose in the districts of Jhansi, Gorakhpur, Mirzapur, Bahraich, Gonda, Rae Bareilly, Ghazipur, Lucknow, Allahabad and Fyzabad.

The regulations have been found most useful in administering fairs and dealing with the outbreaks of the epidemic disease.

Reserve D. P. Hs., assistant medical officers of health on general duty, travelling dispensaries and extra medical officers were deputed to the infected districts as necessity arose on the requisition of district magistrates, district medical officers of health and civil surgeons. The assistant directors of public health of the ranges supervised and organised anti-cholera measures in their ranges and advised local authorities when necessary. The services of sanitary inspectors, vaccinators and the revenue staff were also utilized for the purpose.

13. *Inoculations*.—The total number of inoculations performed during the year by different agencies, including travelling dispensaries, was 105,266.

Anti-cholera vaccine of the value of Rs. 5,606 was purchased and supplied to the district medical officers of health and civil surgeons and other agencies during the year under review.

14. *Monetary grants*.—Monetary grants aggregating Rs. 10,252 were placed at the disposal of district magistrates and assistant directors of public health of the ranges for meeting charges in connexion with anti-cholera measures.

15. *Railway inspection posts*.—With a view to prevent the importation of cholera into these provinces by pilgrims coming by rail to the Kumbh Mela, Allahabad, as well as to check its spread by pilgrims returning by rail on the dispersal of the Kumbh Fair, the medical inspection of passengers was instituted at the railway junction stations (a) at the points of entry to these provinces, (b) at en route railway stations and (c) at all railway stations at Allahabad. At all these stations, except those where there was an infectious diseases hospital, segregation hospitals were erected for the treatment of intercepted cases for the periods noted below :—

A. Railway junction stations at the points of entry to these provinces (from December 15, 1929 to April 15, 1930)—

- | | |
|-----------------|--------------------|
| (1) Saharanpur, | (5) Manikpur, |
| (2) Ghaziabad, | (6) Moghal Sarai, |
| (3) Muttra, | (7) Bhatni, |
| (4) Jhansi, | (8) Gorakhpur, and |
| (9) Ballia. | |

B. Railway stations en route (from January 1, 1930 to February 28, 1930)—

- | | |
|----------------------|-----------------------------------|
| (1) Cawnpore, | (11) Benares City, |
| (2) Ajodhya, | (12) Benares Cantonment Junction, |
| (3) Fyzabad, | (13) Mau, |
| (4) Partabgarh, | (14) Aunrihar, |
| (5) Shahganj, | (15) Chil, |
| (6) Jaunpur, | (16) Banda, |
| (7) Janghai, | (17) Bharatkup, |
| (8) Kashi, | (18) Chitrakot, |
| (9) Bindhachal, | (19) Gonda, |
| (10) Karwi, | (20) Mankapur, and |
| (21) Lakarmandighat. | |

C. Railway stations at Allahabad (from January 1 to February 28, 1930)—

- | | |
|-------------------|----------------------|
| (1) Allahabad, | (5) Naini Junction, |
| (2) Prayag, | (6) Phaphamau, |
| (3) Prayag Ghat, | (7) Allahabad City, |
| (4) Tribeni Ghat, | (8) Izat Bridge, and |
| (9) Jhusi. | |

The assistant director of public health in charge Epidemiology Branch supervised the arrangements at all the railway inspection posts.

Segregation huts were all well constructed and equipped. The huts consisted of two wards of five beds each for cholera cases and two huts of two beds each for small-pox cases and these provided sufficient accommodation.

The number of cholera cases intercepted and treated at these segregation hospitals was 82.

184 lb. of essential oils mixture and 109 lb. of kaolin were issued by the Central Epidemic Store Godown to district medical officers of health and civil surgeons for sale to touring officers. Rs. 974-3-0 were realized on account of the sale of the medicines and credited to Government.

16. *Notification of marriage parties from cholera infected areas*.—As the marriage season usually starts at the beginning of the hot weather and coincides with the cholera season, the District Magistrate of Ghazipur, with a view to control the spread of cholera through marriage

parties, suggested that the movements of marriage parties from one village to another might be notified by the head of the family of the bridegroom to the district magistrate or the district medical officer of health at least one week before the party started, so that if either of these happened to be infected with cholera, steps might be taken to inoculate the marriage party or to improve the sanitary condition of the village they were going to visit. Government considered that such information might be furnished by the patwaris of the circles in the villages infected with cholera. Accordingly the District Magistrate of Ghazipur was asked to try the scheme as an experimental measure for one year. As the scheme could not be worked fully during 1930 due to certain reasons it is being tried in the current year.

CHAPTER X.

HYGIENE PUBLICITY BUREAU AND RED CROSS SOCIETY.

The detailed report of the Hygiene Publicity Bureau for the year 1930 has been submitted to Government separately. This will be printed and circulated to members of the Legislative Council and other officers. The activities of the Bureau are therefore mentioned here briefly.

2. Dr. A. Sousa, D.P.H., held charge of the Bureau from January 1 to October 29, 1930, when he proceeded on leave preparatory to retirement. Dr. M. N. Mitra, D.P.H., took over charge on November 15, 1930, the post remaining vacant during the interval from October 30 to November 14. Dr. B. S. Yajnik, D.P.H., held charge of the post of Senior Assistant till August 15, 1930. Dr. M. C. Agarwal, D.P.H., from August 16 to October 2, and Dr. A. Hamid, D.P.H. (who returned from leave after taking a British D.P.H.) from October 3 to end of the year. Dr. R. N. Tandon, L.P.H., held the post of the Junior Assistant throughout the year, excepting for the period from July 1 to September 24, when Dr. Mohan Swarup Saxena, L.P.H., acted in his place.

3. The total contribution from local bodies to the Bureau during the year 1930-31 amounted to Rs. 7,100 against Rs. 7,900 in the preceding year. The municipal boards of Mussoorie, Muzaffarnagar, Amroha, Moradabad, Pilibhit and Jhansi and the district boards of Etah, Dehra Dun, Bulandshahr, Bijnor, Farrukhabad, Etawah and Ballia have stopped their contributions on account of financial stringency. It may be noted that some of these have a district or municipal health staff, and the work of these officers will receive a check if the services of this branch have to be denied to them owing to the demands of the more deserving local bodies. The United Provinces branch of the Indian Red Cross Society gave a grant of Rs. 12,000 against that of Rs. 10,000 in 1929.

4. The Hygiene Publicity Bureau and under its direction district and municipal medical officers of health have continuously carried out health propaganda in towns and villages. The officers of the Bureau gave lectures on hygiene and public health to (i) the officers and men under training at the Police Training School in Moradabad, (2) junior officers of the Civil Service under training in the Provincial Training Centre there, (3) sarpanches in 30 districts, (4) patwaris under training in 33 schools, (5) inspectors and supervisors of co-operative societies, (6) the post licentiate class, and (7) the L.P.H. and the Health Visitors' classes, the object being to give them from the very start a proper conception of their duties in relation to this branch. The publicity methods followed were much the same as last year, viz., lectures aided by magic lantern demonstrations, the exhibition of posters, and in large gatherings the display of cinema films. The Bureau has also composed popular songs on epidemic diseases, since songs specially appeal to certain classes of people. It is now running a lorry to carry a cinema machine and portable models to facilitate demonstrations in roadside villages.

The following material was issued to various authorities during the year 1930 :—

Posters	..	..	..	..	..	over 60,000
Booklets	..	..	..	..	..	35,000
Leaflets	..	..	..	..	..	700,000

5. A set of loud speakers added to the equipment of the Bureau, and this has considerably facilitated the broadcasting of lectures in large gatherings. It played a prominent part at the Kumbh fair, Allahabad, the Dalma fair, the Soron fair, and also at the All-Asia Educational Conference held at Benares where cinema exhibitions were arranged in addition to a health exhibition. The Bureau displayed all its activities for a period of two months and carried on publicity work in the Kumbh fair, Allahabad. His Excellency the Governor, the Minister of Education and Local Self-Government, the Public Health Commissioner with the Government of India and many other distinguished persons paid a visit to the Public Health Exhibition. The

following may be quoted from Government resolution no. 981/III—239-1930, dated August 13, 1930:—

“The Hygiene Publicity Bureau took full advantage of the huge gathering and spread their views by a Public Health Exhibition, cinema and magic lantern demonstrations, leaflets, lectures and songs, the popularity of the lectures and songs being much enhanced by the use of loud speakers.”

**Anti-malarial
propaganda.**

6. During the malaria epidemic in Lucknow special lectures and cinema exhibitions were given in the municipality regarding its prevention. Four open air cinema exhibitions were given in the important mohallas of the city. The film “Malaria our greatest enemy” was explained to the public. The estimated attendance at these shows was 10,000. The loud speakers of the Public Address system were also put up one evening.

Fifty lectures were given in High Schools and Intermediate Colleges by the Assistant Hygiene Publicity Officer, and in municipal schools by sanitary inspectors. The lectures of the Assistant Hygiene Publicity Officer were also demonstrated with magic lantern. Special leaflets on the prevention of malaria were prepared and distributed to the public and in schools. A lecture was also delivered by the Superintendent, Health Visitors’ school in the Kashmiri Mohalla Girls’ School. Special slides regarding the prevention of malaria were prepared and shown to the public daily in the three cinema houses of the town.

Junior Red Cross.

7. An important measure for the promotion of rural uplift has been brought into being in the Junior Cross movement. This is the children’s branch of the Red Cross and is organized through school groups with the help of teachers. Its principal aims are:—

- (1) The practice of health habits by the members.
- (2) Service to the sick and suffering, specially children.
- (3) International friendliness promoted through the exchange of school correspondence albums between Junior Red Cross members.

The Director of Public Instruction, United Provinces, is the President of the Junior Red Cross Committee of the Indian Red Cross Society and the District Medical Officer of Health, Partabgarh, is the Honorary Secretary. The Assistant Hygiene Publicity Officer (Senior) has been appointed the Honorary Joint Secretary of the St. John’s Ambulance Association at Lucknow. The members keep to the health rules and do all they can to improve their own health and that of their comrades. They help to fight epidemics by persuading people to be vaccinated or inoculated against diseases, and like their seniors they seek to prevent and relieve suffering in all its forms. Up to the middle of February, 1931, 71 Junior Red Cross groups were organised with a membership of about 3,000 scholars, almost all of whom are in village schools. The value of the introduction of this community movement in village life needs no elaboration, as the aim is to form clubs for the younger boys who first receive practical instructions in hygiene, sanitation and first aid and are thereafter expected to act plays on epidemic diseases, chant health songs, etc. The Public Health department makes small grants to each group for meeting the cost of material required for carrying out such sanitary improvements, anti-malarial measures, etc., that the group may undertake.

**Booklets on
epidemic diseases.**

8. In the middle of 1930 over 162,000 copies of a booklet in vernaculars, giving in simple language the symptoms of the common epidemic diseases of the rural areas, their cause and manner of spread, how to escape them and what to do if one gets the disease, were distributed to mukhias, patwaris and head teachers of the primary and the middle schools in villages in the hope that the presence of these instructions in villages to which reference could be made in case of need may be of value to the villagers. Mukhias and patwaris were also instructed to read over the instructions for particular diseases to villagers at the time of the prevalence of the diseases in question, and teachers were asked to give lectures to their classes from the copies supplied to them.

**Lectures to pupil
teachers.**

9. Hygiene is now taught for certain periods in some of the village schools. In order to improve the quality of teaching of this subject orders were issued to district and municipal medical officers of health to give a course of lectures on public health subjects to pupil teachers during their

training in the Government Normal Schools in Lucknow, Allahabad, Fyzabad, Gorakhpur, Muzaffarnagar, Agra and Jhansi. Arrangements are being made for similar lectures in the Government Normal School in Almora.

10. The department also gave attention to the dissemination of correct knowledge regarding diets. A comprehensive note entitled "Dietaries for cultivators" was prepared in which cheapest possible combinations which meet the requirements of a well balanced diet were suggested. The note has been circulated to all public health officers and school teachers in order to enable them to give proper advice to villagers and children on this question. **Improvement of dietaries.**

11. A Red Cross Day was observed in the province in March, 1930. Directions were issued to all the officers concerned to deliver special lectures explaining the aims and activities of the Red Cross on that date; also an article on the subject was published in the local press. **The Red Cross Day.**

12. The following agencies also did the hygiene propaganda in collaboration with the Hygiene Publicity Bureau :— **Other agencies employed in hygiene propaganda.**

(1) The Servants of India Society who has been given a magic lantern on loan for social and educational work.

(2) The A. P. Mission, Saharanpur.

(3) The Education and Co-operative departments and the Court of Wards did their best in making the "village aid" scheme a success, and the officers of the Medical department also delivered lectures in a few places.

13. The following literature was prepared during the year under report :— **Literature prepared.**

A poster on School Hygiene.

A poster on Village Sanitation.

Health songs leaflet.

14. The activities of the Bureau in connexion with the village aid scheme, the village aid dispensaries, vital statistics, etc., have been mentioned separately under suitable headings. **Other activities.**

15. The policy of the Hygiene Publicity Bureau has been to render all possible assistance in educating the public, specially the village population, with the material available at its disposal. It has willingly and readily rendered its full support to the sister departments and agencies, official and non-official, that have needed it, and the energies of the meagre staff at its disposal have been put to the utmost strain. **General remarks.**

The name of the Bureau has become well known outside the province as well as outside India. Its publications, posters, leaflets and booklets have been placed in the Health Propaganda section of the Museum in the London School of Tropical Medicine and Hygiene where specimens of publicity material from all over the world have been arranged. The booklet and the leaflet on plague have been sent to the Technical Adviser on Rat Destruction of the Ministry of Agriculture and Fisheries in England. The Assistant Hygiene Publicity Officer (Senior) was deputed as a representative to the Congress of the Royal Sanitary Institute and the Royal Institute of Public Health in England. Two scientific papers, one on the "Village aid" scheme and the other on the need of municipal sanatoria were contributed by Dr. A. Sousa to be read at the session of the Indian Science Congress.

The Public Health department, Madras, sent their literature for an exchange with this Bureau, and the Public Health department, Punjab, asked for particulars about the working of the Bureau and the preparation of films with a view to start publicity work there.

CHAPTER XI.

MATERNITY AND CHILD-WELFARE.

Maternity and
Child-welfare
work.

The information given here has mostly been taken from the annual report of the Lady Chelmsford and Red Cross Society Maternity and Child-welfare League, United Provinces branch, for the calendar year 1930 furnished by the Honorary Secretary of the League.

2. During the year under review one meeting of the Council (Governing Body), four meetings of the Executive Committee and one joint meeting of the Provincial Committee of the Red Cross Society and Executive Committee of the Provincial League were held. In the joint meeting the amalgamation of these bodies, as suggested by the Central Council of the League, was considered. The question of amalgamation has been under consideration since 1929 and has now been formally agreed to by these two bodies. The first meeting took place on May 30, and since then all maternity and child-welfare work is being controlled by the provincial branch of the Indian Red Cross Society through the agency of its Maternity and Child-welfare Section. Certain changes were again made in the personnel of the Council and the number of the members of the Executive Committee was increased from five to eight.

The office of the Chairman of the Executive Committee was held by me from January 1 to March 11 and again from November 15, 1930 up to the end of the year. During my 8 months' absence from India the office of the Chairman was held by Lieut.-Colonel W. A. Mearns, M.A., M.B., D.P.H., I.M.S.

The office of the Honorary Secretary of the Provincial League was held by Dr. S. H. Commissariat, F.R.C.S.I., S.M.O., W.M.S., Superintendent, Medical Aid to Women, United Provinces, from January 1, 1930 to May 19, 1930 and again from November 29, 1930 up to the end of the year. In the intervening period the post was held by Dr. G. E. M. Brindley, M.B., B.Ch., S.M.O., W.M.S., Officiating Superintendent, Medical Aid to Women, United Provinces. Practically all the District Headquarters have now got maternity and child-welfare centres except Jaunpur and Etawah. These districts also have decided to start centres on a sound footing in 1931 as soon as a qualified staff is available.

The scheme for providing maternity aid in rural areas drawn up last year could not be introduced owing to financial stringency.

The United Provinces Government sanctioned the usual grant of Rs. 1,22,600 during 1930-31. Out of this the Council of the League sanctioned a sum of Rs. 81,663 as donation to local branches. As the grants made by the Provincial League and the Provincial Red Cross Society form the major portion of the income of the local branches, it was considered advisable that in future only those branches should be allowed a grant which are affiliated to the Provincial League and raise sufficient money locally. The Provincial League has also fixed a scale of fees to be charged from well-to-do people for the services of the staff. This has been brought into force from April 1, 1931.

The Central Council of the V. M. S. Fund, Delhi, as usual gave Rs. 3,300 for the improvement of indigenous *dais* and the Indian Red Cross Society (United Provinces) Rs. 500 for expenses in connexion with the Baby Weeks. The Central Council of the All-India Lady Chelmsford League, Delhi, continued to meet the pay of the Superintendent, Health School, at Lucknow.

The chief functions of the League were the same as in previous years, viz. :—

- (1) Maternity and child-welfare work.
- (2) Improvement of indigenous *dais*.
- (3) Training of midwives, assistant midwives and health visitors.
- (4) Propaganda work such as holding of Baby Weeks or other shows conducive to the attainment of the above objects.

The activities of the various child-welfare and maternity centres started in the province, their condition, constitution, staff, etc., are detailed fully in the annual report of the Lady Chelmsford League, United Provinces branch, which has been printed as a separate publication. Great difficulty is experienced in getting adequate grants from district and municipal boards towards the child-welfare scheme in spite of the great benefits conferred by these centres. Whenever local bodies have a bad financial year they generally propose cutting down grants to child-welfare centres.

A statement showing the number of cases conducted by the child-welfare staff, the number of deaths and the death-rates per mile amongst cases which were attended as well as amongst those not attended by the maternity and child-welfare staff, together with some other particulars, is appended at the end of this chapter.

Good work has been done in maternity and child-welfare centres at Allahabad, Bareilly and Cawnpore as will appear from the attached table:—

City.	Total number of births as registered by municipality.	Number of cases conducted by the child-welfare staff with or without indigenous dais.	Percentage.
1. Allahabad	7,379	1,541	20·88
2. Bareilly	5,902	1,745	29·57
3. Cawnpore	9,347	4,526	48·40

In Lucknow only 969 cases were conducted by the local child-welfare staff. This is very disappointing.

As stated elsewhere the infantile mortality in Cawnpore has considerably decreased; the average infantile death-rate after the introduction of the centre being 368·69 as compared with 465·49 in the previous five years.

3. The probationer midwives are trained at the Women's Medical School, Agra, Dufferin Hospitals, Allahabad, Benares, Cawnpore, Lucknow, Aligarh, Bahraich, Bara Banki, Gorakhpur, Ghazipur, Meerut, Bareilly, Saharanpur, Shahjahanpur, Gonda, Dehra Dun, Moradabad, Lady Porter's Hospital, Bulandshahr, Mrs. Rustamjee's Dufferin Hospital, Fatehpur, Singhari Memorial Hospital, Hathras, Provincial Training Centre, Ganeshganj, Lucknow, Mrs. Stubb's Maternity and Child-welfare Society, Bareilly, Ross Maternity and Child-welfare Centre, Dehra Dun, Ram Narain Bazar Centre, Cawnpore, and Maternity and Child-welfare Centre, Ghazipur. **Training of probationer midwives**

As usual two examinations were held during the year. Seventy-seven candidates appeared for *dais* and midwives' examination and 57 came out successful. Three candidates of the Tehri State who were receiving training at the Provincial Training Centre at the expense of that State also passed out.

At present 69 candidates are receiving training in different institutions and are receiving scholarships from the Provincial League Funds. They will appear in the examinations to be held in 1931. They are all under agreement to serve the Provincial League for two years wherever ordered in the province after passing out. There are 24 vacancies under the Dufferin Fund and 36 under the League which will be filled up by these candidates. As the new centres start in the urban and rural areas more vacancies will occur.

The Provincial League allotted Rs. 21,600 for the training of 100 midwives during the current financial year. This grant has been now reduced to Rs. 13,892.

In the 28 districts which have been provided with a district health staff the number of *dais* trained in maternity and child-welfare work during 1930 was 6,490 against 4,637 in 1929.

A number of rural child-welfare centres has also been started in these districts and midwives appointed.

4. The Health School, United Provinces which was started in Lucknow with effect from October 1, 1928 has shown satisfactory progress. Out of ten candidates who were under training last year eight passed and were posted to different districts. At present there are six new candidates under training. **Health school, United Provinces, Lucknow.**

The examination of the Health Visitors is organized by the United Provinces State Medical Faculty.

Dr. D. F. Das continued to hold the office of the Superintendent of the Health School and Miss Caesar, Health Visitor, worked as her assistant.

As suggested by the Victoria Memorial Scholarship Fund Conference held in 1929, it has been decided to start the training of the medical women for the Diploma in Domestic Hygiene. The scheme and syllabus for the said training have been drawn up, and it is hoped that training will also be started from September 1, 1931. Under this scheme six medical women will be taken for training at a time and will be allowed a scholarship of Rs. 75 per mensem. The period of training will be for 9 months. The Health School for the training of medical women and midwives as Health Visitors will be a combined institution in order to run it economically.

Baby Weeks propaganda works.

5. Baby and Health Weeks were held in 22 districts during the year under report and maternity and child-welfare models and films on public health subjects were shown. The Superintendent, Medical Aid to Women, attended almost all the shows and gave demonstrations on the models and cinema films, wherever possible.

The Provincial League has now got a cinema and films of its own. A lorry has been purchased and extensive propaganda work is done in the interior of the districts (rural areas) where centres are being opened. Propaganda has been done in the last 7 years at district headquarters, with the result that almost all the district headquarters have child-welfare centres. This is what was aimed at by holding Baby Weeks or Health Weeks. At the same time the Hygiene Publicity Bureau deputed as usual two officers to take advantage of these gatherings, and at all these functions, fair and exhibitions they lectured and gave demonstrations to the general public on general hygiene and preventive methods. This portion of the work has recently been undertaken altogether by the Hygiene Publicity Bureau and is financed by that organization from funds granted by the provincial branch of the Indian Red Cross Society, thus releasing the cost entailed for other purposes of the League.

Byelaws for midwives and dais.

6. During the year under report byelaws for midwives and dais were introduced in the municipalities of Saharanpur, Hardwar, Meerut, Roorkee, Muzaffarnagar, Bulandshahr, Kalpi, Mau, Banda, Jampur, Ghazipur, Gorakhpur, Azamgarh, Lucknow, Unao, Bijnor, Najibabad, Moradabad, Naini Tal, Kashipur, Fyzabad, Tanda, Bahraich, Sultanpur and Partabgarh. The municipal boards of Bareilly, Shahjahanpur, Sahaswan and Orai have framed bye-laws on the subject, but they have not yet been confirmed. Other boards are considering these byelaws, and it is hoped that they will soon introduce them in their municipalities.

Statement showing the number of cases conducted by the child-welfare staff, the number of deaths and death-rates per mille amongst cases which were attended as well as amongst those not attended by the maternity and child-welfare staff.

District or locality.	Number of cases conducted by the staff without indigenous dais.	Number of cases conducted by the staff with indigenous dais.	Total of columns 2 and 3.	Total number of deaths of infants amongst the cases conducted by the staff with or without indigenous dais.	Infantile mortality per mille in the cases conducted by the staff of child-welfare.	Total number of cases not attended by the child-welfare staff.	Number of deaths amongst infants under one year of age in cases not attended by child-welfare staff.	Infantile mortality rate per mille in the cases mentioned in column 7.	Total number of deaths of mothers amongst the cases conducted by the staff with or without indigenous dais.	Total number of visits paid by the staff in patients' own homes.	Number of infants treated at the centre.	Number of mothers treated at the centre.	Total of columns 12 and 13.	Number of cases sent to hospital by the staff.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Allahabad ..	1,295	246	1,541	27	17.54	5,838	1,934	331.28	4	12,564	3,548	5,597	9,145	64
2. Do. cantonment.	55	8	63	7	111.11	152	40	380.00	..	4,494	172	216	388	3
3. Almorah ..	19	1	20	..	..	283	52	183.74	..	2,181	1	..	1	6
4. Agra ..	210	30	240	10	41.66	10,564	2,213	209.48	..	15,066	2,513	1,272	3,785	113
5. Aligarh ..	147	428	575	25	40.00	2,675	671	250.84	2	12,608	1,938	1,393	3,331	7
6. (a) Azamgarh..	115	..	115	..	..	438	121	276.25	..	1,150	..	..	..	..
(b) Rasulpur ..	9	19	28	..	..	..	..	..	..	95	40	100	140	3
(c) Deogaon ..	50	10	60	..	..	..	..	..	..	180	5	4	9	..

District or locality.	Number of cases conducted by the staff without indigenous <i>dais</i> .	Number of cases conducted by the staff with indigenous <i>dais</i> .	Total of columns 2 and 3.	Total number of deaths of infants amongst the cases conducted by the staff with or without indigenous <i>dais</i> .	Infantile mortality per mille in the cases conducted by the staff of child-welfare.	Total number of cases not attended by the child-welfare staff.	Number of deaths amongst infants under one year of age in cases not attended by child-welfare staff.	Infantile mortality rate per mille in the cases mentioned in column 7.	Total number of deaths of mothers amongst the cases conducted by the staff with or without indigenous <i>dais</i> .	Total number of visits paid by the staff in patients' own homes.	Number of infants treated at the centre.	Number of mothers treated at the centre.	Total of columns 12 and 13.	Number of cases sent to hospital by the staff.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
7. Banda ..	42	6	48	10	241·66	355	111	312·67	1	2,106	11	7	18	48
8. (a) Bahraich ..	57	132	189	12	63·46	871	212	245·69	1	628	..	..	..	8
(b) Bhinga ..	112	109	221	24	..	126	45	..	..	451	..	..	..	..
(c) Nanpara ..	53	31	84	16	..	431	81	..	..	477	..	..	..	..
9. Bareilly ..	1,109	636	1,745	126	72·23	4,157	1,009	242·72	9	15,171	1,670	1,041	2,711	125
10. Do. cantonment.	32	59	91	8	87·91	118	34	294·23	2	328	999	772	1,771	169
11. Ballia ..	48	38	86	7	..	374	53	..	13	487	..	..	..	13
12. (a) Bijnor ..	48	64	112	17	151·78	763	194	256·88	6	1,057	751	435	1,186	4
(b) Kiratpur ..	47	..	47	..	..	585	140	239·31	..	310	4	4	8	..
(c) Mandawar ..	1	..	1	..	..	23	4	173·91	..	10	1	1	2	..
(d) Haldaur ..	78	..	78	6	55·55	628	79	149·62	..	88	69	8	77	4
13. (a) Bara Banki ..	155	31	186	..	..	252	74	293·65	..	252	..	..	..	9
(b) Harha ..	1	2	3	..	..	19	4	215·26	..	50	108	105	213	..
14. Basti ..	54	36	90	14	155·55	337	67	198·81	1	15	..	..	..	2
15. Benares ..	817	..	817	8	9·79	9,360	2,760	294·87	88	9,804	..	..	..	..
16. Do. cantonment.	..	..	..	..	..	..	..	..	..	..	..	..	Figures not kept.	..
17. (a) Budaun ..	10	23	33	..	..	2,071	556	268·46	5	337	..	..	..	1
(b) Gannaur ..	3	43	46	2	43·47	247	71	287·44	..	210	..	5	5	6
(c) Dataganj ..	5	23	28	..	..	72	19	263·88	2	479	..	..	..	32
(d) Ujhani ..	110	267	377	7	185·67	217	118	513·64	..	1,785	5	1	6	1
(e) Sahaswan ..	44	3	47	5	106·38	916	242	264·32	4	896	..	..	..	3
(f) Bisauli ..	42	89	131	3	23·20	151	41	267·97	2	1,228	..	..	..	2
(g) Islamnagar ..	48	26	74	2	27·02	250	83	332·00	..	455	33	33	66	..
18. (a) Bulandshahr ..	83	68	151	21	139·07	714	164	229·69	..	151	151	..	151	..
(b) Anupshahr ..	44	8	52	6	119·39	251	69	274·90	..	417	47	1	48	..
(c) Dibai ..	6	2	8	..	..	501	114	227·54	..	..	..	..	..	..
(d) Siana ..	1	..	1	..	..	328	81	246·95	..	38	..	..	..	..
19. Cawnpore ..	1,895	2,631	4,526	445	98·32	4,821	2,376	492·84	28	76,198	28,239	3,635	31,874	119
20. Dehra Dun ..	260	348	608	41	67·42	866	339	391·45	2	14,855	518	490	1,008	4
21. Etawah ..	..	..	..	..	..	..	..	..	..	..	Centre not yet started.			
22. Fatehpur ..	34	96	130	2	15·69	731	257	351·61	..	8,729	..	..	..	..
23. Fatehgarh ..	44	34	78	7	89·74	2,650	914	344·90	1	736	..	..	..	44
24. Fyzabad ..	74	234	308	29	92·85	1,011	224	221·56	2	1,346	91	11	102	8
25. (a) Gonda ..	129	111	240	7	29·16	406	199	493·79	2	2,918	138	131	269	6
(b) Nawabganj ..	33	95	128	25	195·31	82	38	585·85	2	981	48	51	99	71
26. Ghazipur ..	18	236	254	12	47·24	657	160	243·53	..	616	228	58	286	1
27. Gorakhpur ..	200	36	236	15	63·89	2,451	635	259·11	..	316	2	..	2	9
28. Hamirpur ..	21	154	175	19	108·56	112	27	241·07	2	3,479	17	2	19	11
29. Hardoi ..	36	4	40	1	25·00	455	105	230·77	..	859	30	7	37	2
30. Jaunpur ..	..	..	..	..	..	..	..	..	..	..	Centre not yet started.			
31. Jhansi ..	429	315	744	40	53·76	2,447	1,164	475·68	1	5,681	2,581	1,838	4,419	382

District or locality.	Number of cases conducted by the staff without indigenous <i>dais</i> .	Number of cases conducted by the staff with indigenous <i>dais</i> .	Total of columns 2 and 3.	Total number of deaths of infants amongst the cases conducted by the staff with or without indigenous <i>dais</i> .	Infantile mortality per mille in the cases conducted by the staff of child-welfare.	Total number of cases not attended by the child-welfare staff.	Number of deaths amongst infants under one year of age in cases not attended by child welfare staff.	Infantile mortality rate per mille in the cases mentioned in column 7.	Total number of deaths of mothers amongst the cases conducted by the staff with or without indigenous <i>dais</i> .	Total number of visits paid by the staff in patients' own homes.	Number of infants treated at the centre.	Number of mothers treated at the centre.	Total of columns 12 and 13.	Number of cases sent to hospital by the staff.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
32. Jalaun (Orai)	84	7	91	13	142·85	406	133	262·84	5	8,260	..	..	..	5
33. Kheri ..	196	6	202	20	99·01	199	41	206·03	..	2,585	..	..	..	8
34. (a) Lucknow	648	321	969	119	122·80	6,861	2,742	399·66	10	22,103	436	48	484	27
(b) Provincial Training Centre.	731	233	964	36	37·34					40,283	3,843	3,924	7,767	51
35. Lucknow cantonment.	39	..	39	2	51·28	128	..	..	1	4,211	445	3	448	32
36. Lansdowne ..	39	..	39	3	76·92	94	31	329·78	..	440	2,030	961	2,991	20
37. (a) Muttra ..	22	270	292	21	71·91	2,599	759	292·03	4	10,382	1,952	386	2,388	24
(b) Kosi Kalan	..	193	193	31	16·06	..	49	..	1	3,347	20	10	30	1
(c) Mahaban..	2	125	127	1	7·88	..	31	..	..	3,300	100	18	118	5
(d) Sadabad ..	..	154	154	12	77·92	..	53	..	1	3,540	..	..	..	3
(e) Sahphau ..	4	69	73	2	27·39	..	46	..	..	2,242	294	25	319	1
(f) Brindaban	..	34	34	5	147·05	..	..	..	1	344	..	..	..	..
(g) Gobardhan	9	67	76	10	131·57	..	33	..	1	7,281	..	..	..	..
38. Mcerut ..	207	40	247	25	101·21	2,567	431	167·90	2	1,194	150	150	300	14
39. (a) Muzaffarnagar.	24	17	41	8	195·12	1,290	244	189·69	8	1,100	..	..	..	6
(b) Ka'rana ..	6	4	10	2	200·0	811	145	178·79	2	20	..	..	..	..
40. Moradabad ..	67	88	155	15	96·77	5,041	1,141	226·34	2	17,416	..	..	..	15
41. Mussoorie ..	19	62	81	11	135·80	89	28	314·60	..	764	..	..	..	2
42. Mirzapur ..	57	59	116	4	34·49	2,130	143	67·13	7	786	..	..	..	16
43. Mainpuri	101	10	111	11	99·09	84	42	500·00	..	9,344	63	33	96	5
44. Naini Tal ..	115	7	122	6	32·79	226	59	261·62	1	2,040	..	3	3	3
45. (a) Pilibhit ..	15	126	141	14	99·29	1,481	590	398·38	..	2,111	..	..	..	2
(b) Puranpur	49	44	93	5	53·76	50	32	640·00	1	503	..	..	..	1
46. Partabgarh ..	2	..	2	..	..	34	10	294·11	..	10	2	2	4	..
47. Pauri (Garhwal)	8	3	11	1	90·90	..	..	..	..	11	..	Record not kept.		
48. Rae Bareli ..	141	45	186	23	123·68	525	193	367·61	1	3,905	90	160	250	10
49. Ranikhet ..	46	3	49	3	61·22	61	11	180·32	1	514	194	80	274	4
50. Etah (Soron) ..	Information not available.													
51. Saharanpur ..	63	9	72	3	41·66	3,349	1,081	322·77	1	878	9	16	25	5
52. (a) Sitapur ..	..	41	41	..	..	923	250	270·85	..	4,460	..	..	..	4
(b) Kharabad	104	51	155	12	77·42	347	105	302·59	1	2,755	30	4	34	6
53. Shahjahanpur	26	283	309	12	38·83	2,979	741	248·74	3	2,313	..	..	..	6
54. (a) Sultanpur	52	..	52	..	..	247	80	323·88	..	1,413	..	..	..	2
(b) Amethi ..	5	2	7	..	..	1,800	409	227·22	..	24	..	..	..	..
(c) Musafirkhana	4	1	5	..	..	1,765	329	186·40	..	19	..	..	..	..
55. Unao ..	84	12	96	4	..	378	94	..	..	486	204	..	204	2
Total ..	11,092	9,118	20,210	1,440	71·25	95,320	27,970	295·53	234	3,63,256	53,820	23,041	76,861	1,560
Total for 1929 ..	8,856	7,624	16,480	1,143	69·35	74,469	24,083	283·46	848	252,520	35,176	18,676	53,852	696

NOTE.—Percentages given by Secretaries in charge of centres cannot be taken to be accurate until thorough check is exercised by outside agencies and each and every child is seen alive at the end of one year.

CHAPTER XII.

PUBLIC ANALYST'S BRANCH.

The office of the Public Analyst to Government, United Provinces, was held by Mr. P. S. MacMahon, M.Sc., from January 1 to April 30, 1930 and again from August 1, 1930 to the end of the year. During his absence on extraordinary leave and the University vacation from May 1 to July 31, 1930 his Deputy, Dr. B. M. Gupta, M.Sc., Ph.D., acted as Public Analyst in addition to his own duties.

During the year under report the provisions of the Prevention of Adulteration Act were extended to the municipalities of Bulandshahr, Lalitpur (Jhansi), Budaun, Jaunpur, Atrauli, Etah, Soron, Jalesar, Banda, Tanda and to the town area of Kiratpur (district Bijnor) in respect of certain common articles of food and to the municipalities of Mau, Orai, Kalpi, Kunch and the town areas of Chirgaon and Moth (district Jhansi) in respect of ghee only. The provisions of the Act were further extended to the Hardwar municipality in respect of sugar and mawa. The Act is now in force in all the municipalities of the United Provinces except Sikandrara (district Aligarh). Correspondence regarding the extension of the Act to this municipality is going on with the local authorities.

The following table shows the number of samples received for analysis during the past five years :—

Year.						Number of samples.
1926	..	..	..	..	..	933
1927	..	..	..	..	..	1,611
1928	..	..	..	..	..	1,938
1929	..	..	..	..	..	3,311
1930	..	..	..	..	..	3,910

The large increase in the number of samples was due not merely to the extension of the Act to the places mentioned above, but it was also due to the fact that the medical officers of health of several places took a greater interest in the prevention of adulteration according to the orders issued by the local Government.

From the above it will be seen that the work of the Public Analyst is increasing yearly. A comprehensive scheme regarding staff and accommodation has already been submitted to Government, but it will have to await better times.

The samples received (3,910) consisted of 2,470 samples of ghee, 1,045 of milk, 18 of butter, 245 of edible oils, 60 of flour, 6 of tea, 16 of vegetable fat and 50 miscellaneous. Of these, 132 samples (51 of ghee, 74 of milk, 2 each of drugs and mawa and one each of oil, *puri* and medicine) could not be analysed as they were received either in a damaged condition or were unfit for analysis. Of the remaining 3,778 samples, 598 of ghee, 409 of milk, 5 of butter, 77 of edible oils, 46 of flour, 6 of tea, 2 of vegetable fat and 10 miscellaneous were certified as adulterated. One sample of drug and one of water were certified regarding their percentage composition. The remaining 2,623 samples were declared as genuine.

932 persons were prosecuted under the Act, of whom 699 were fined and 27 acquitted. 28 persons could not be traced, 7 absconded, one was admonished and one preferred to go to jail instead of paying a fine of Rs. 50. Seventeen cases were withdrawn and 26 dismissed. 126 cases were pending before the courts on April 8, 1931.

The total amount of fines realized was Rs. 16,682 against Rs. 12,202 in 1929.

No samples were received for analysis from several municipalities and notified and town areas. The attention of the local authorities concerned has been drawn to the matter, as it is of little use extending the Act to these places if samples are not taken regularly and submitted for analysis.

Of the 3,910 samples mentioned above, 22 samples (13 of ghee, 3 of milk, 2 of edible oils and 4 miscellaneous) were received from miscellaneous sources. In addition to the samples mentioned above, 145 samples of ghee were collected informally from various shops of a large city in these provinces, in accordance with the provisions of section 20 of the United Provinces Prevention of Adulteration (Amendment) Act, 1930. Out of these, 42 samples, i.e., as many as 29 per cent. were found to be adulterated. This indicates that large

quantities of adulterated ghee are sold in the shops of big cities and greater vigilance is required, specially in larger municipalities, for improving the quality of food-stuffs sold in the markets.

During the year under report no sample of food-stuffs and drugs was analysed by the Chemical Examiner to Government, Agra, under the United Provinces Prevention of Adulteration Act.

In order to ensure that purchasers may obtain the articles which they desire to buy and also to arm the Government with sufficient powers to control the sale of ghee and other food-stuffs and to prescribe standards of purity of food-stuffs, prohibit the addition of harmful preservatives and colouring matters the United Provinces Prevention of Adulteration Act of 1912, as amended by Act I of 1916, was further amended during the year under report. The penalty for an offence under the Adulteration Act was also enhanced.

In exercise of the powers conferred by several clauses of sub-section (1) of section 14 of the United Provinces Prevention of Adulteration Act, 1912 (no. VI of 1912), as amended by Acts nos. I of 1916 and II of 1930, several statutory rules were also made during the year.

In the reports for the last two years it has been pointed out that some essential precautions in the working of the Act were missing. This is further illustrated by the following cases which occurred during the year under report :—

In one municipality nine samples of different food-stuffs were collected by the sanitary inspector, and these consisted of one sample of milk, one of honey, two of ghee and five of wheat flour. At the time of despatch one sample of ghee was suppressed by the despatching clerk and instead of it one sample of wheat flour was substituted. The serial numbers were also changed, and the forwarding letters for these samples were also suppressed in order to avoid detection. Long afterwards when the discrepancy regarding the serial numbers was discovered, an inquiry was instituted by the medical officer of health of the locality. The person concerned was removed from his post with the approval of the chairman of the board.

In another municipality the results of about 43 genuine and adulterated samples were sent to the medical officer of health by post. On receipt of a reminder from the medical officer of health for the results of these samples, and subsequent correspondence thereon, the duplicate copies of the certificates of the adulterated samples were sent in a closed cover which was addressed to the medical officer of health by name. The receipt of this packet was acknowledged by some one of the office of the medical officer of health. Even these certificates did not reach the health officer. Fresh copies of certificates had to be issued for the third time after about three months had elapsed since the despatch of the original certificates. This illustrates how cases can sometimes be suppressed and prosecutions unnecessarily delayed.

In one municipality 18 samples of food-stuffs were certified as adulterated, in which connexion 17 prosecutions were instituted by the district medical officer of health. It is extremely surprising that all these cases had to be dismissed as none of the vendors could be traced. The attention of all the departmental officers concerned has been drawn to the matter.

Inadequacy of fines.

2. The following table shows the number of cases in which fines were inflicted, the total amount of fine inflicted and the average amount of fine inflicted per sample in 12 large cities, and also the corresponding figures for the whole province :—

Locality.				Number of persons fined.	Total amount in rupees.	Average amount of fine in a case.
Agra municipality	..	..	..	90	2,621	29.12
Allahabad municipality	..	..	..	4	120	30.0
Bareilly	ditto	..	..	58	876	15.1
Benares	ditto	..	..	6	115	19.16
Cawnpore	ditto	..	..	90	1,132	12.57
Dehra Dun	ditto	..	..	18	870	48.33
Fyzabad	ditto	..	..	48	3,025	42.18
Lucknow	ditto	..	..	81	1,443	17.81
Meerut	ditto	..	..	15	371	24.73
Mussoorie	ditto	..	..	9	285	31.66
Muttra	ditto	..	..	16	950	59.37
Naini Tal	ditto	..	..	32	797	24.9
Total				699	16,682	23.86

It will be noted that in the year under review there has been no general improvement in the system of punishment by fines inflicted by the courts, and that the average amount of fine inflicted is still insufficient to produce a deterrent effect. In the report for the previous year it was pointed out that unless there are special reasons for imposing light punishment, each offender under the Adulteration Act must pay a minimum fine of Rs. 15, which is approximately the expenditure for the detection of an adulterated sample. From the record of details of cases available it is found that out of 615 cases of conviction fines of less than Rs. 15 were inflicted in 247 cases. Moreover, it does not appear from the returns received from the various local authorities that up till now the cost of prosecution in any of the cases resulting in the conviction of a vendor has been fixed by the court to enable the local authority to recover it from the vendor under sub-section (2) of section 19 of the recently amended Act.

CHAPTER XIII.

SCHOOL HYGIENE.

The system of the working of the scheme of inspection of schools and medical examination of scholars by the officers of the Public Health department was explained in the last report. The résumé in this report covers the period of 12 months, viz. from May, 1930 to April, 1931.

During this period the medical officers of health in 45 municipal areas visited 101 English schools out of 102 for detailed examinations and 443 out of 736 vernacular schools (i.e., 58 per cent.) for ordinary examinations. The number of boys for detailed examination on the rolls was 32,111 and 21,419 were examined, a percentage of 66·7. The number of boys for ordinary examination was 77,486 and 37,523 were examined, i.e., 48·4 per cent. More would have been examined if all the municipal boards had furnished the necessary forms. The percentages attained are excellent figures and a considerable amount of time and energy was taken up by this work which really requires a separate School Health Service.

The reports show remarkable uniformity all over in respect of defects detected. Defects in teeth and gums, granular eyelids and scabies are the most common ones, and these are all due to the neglect of personal hygiene. The percentage of defective vision would be higher if facilities for its detection were afforded in all schools. The spleen rate has gone up considerably owing to malaria epidemics in a few places. Goitre cases were reported from two places. The figures against infectious diseases are not uniform as some medical officers of health have included cases of granular lids and scabies in them when separate columns exist for these, but small-pox, chicken-pox and measles cases have been detected attending classes in the infectious stage before the skin had returned to normal. Boys suffering from mumps were also detected in two schools.

The percentage of unvaccinated boys is still high, and the Public Health department fully endorses the opinion of its school health officers that protection against small-pox should be made an essential condition of admission to a school. Only in two municipal areas were all the boys examined found protected against small-pox. A summary of the defects in 41 municipal areas from whom complete reports have been received is given in the appended schedule :—

I—Municipal areas.

						Number of children who had defects.	Percentage of such children to total children examined.
1. Nutrition	..	..	{ Good	..	..	18,617	38.70
			{ Fair	..	..	19,055	39.61
			{ Poor	..	..	10,573	21.98
2. Defects in teeth	..	..	..	..	..	5,375	11.17
3. Enlargement of tonsils and adenoids	..	..	..	..	..	2,877	5.98
4. Defects in hearing	..	..	..	..	..	617	1.28
5. Defects in eyes	..	..	{ Diseases of the lids	..	..	3,502	7.28
			{ Vision	..	..	2,600	5.40
6. Defects in speech	..	..	..	..	..	150	.31
7. Tuberculosis	..	..	{ Pulmonary	..	..	50	.10
			{ All other forms	..	..	483	1.00

					Number of children who had defects.	Percentage of such children to total children examined.
8.	Lung diseases other than tuberculosis	..	..	..	374	.78
9.	Heart diseases	..	..	..	188	.39
10.	Alimentary diseases (other than tuberculosis of abdomen	..			621	1.29
11.	Anæmia	..	..	Evidence of parasites or other diseases.	288	.60
				Enlargement of spleen	2,244	4.66
12.	Deformities	..	..	Congenital	109	.23
				Acquired	80	.17
13.	Skin diseases.	..	..	..	1,474	3.06
14.	Infectious diseases	..	..	..	430	.89
15.	Unprotected against small-pox	..	..	..	3,960	8.23
16.	Protected by vaccination or re-vaccination	..	..	..	41,346	85.94

Reports submitted by district medical officers of health show that out of 516,281 scholars, 104,596 (or 20 per cent.) were examined in rural areas. More would have been examined if all local bodies had provided the forms for examination. Out of 7,301 schools in these areas 1,804 or 24.7 per cent. were visited. The percentages arrived at are good considering that only two or three officers in each district with many other duties to perform had to examine a large population of school-going age scattered over a vast area. Eight of the reports were either incomplete or received late, and the officers concerned have been asked to explain. The subjoined table gives a summary of the defects calculated from reports of 20 district medical officers of health.

It will be noted that the defects due to neglect of personal hygiene predominate in the districts as well as in towns. The percentage of defective vision is certainly an under-estimate as in case of the towns. A few cases of leprosy were detected :—

II—Rural areas.

					Number of children who had defects.	Percentage of such children to total children examined.
1.	Nutrition	..	..	Good	30,291	33.20
				Fair	44,192	48.44
				Poor	16,440	18.02
2.	Defective teeth	..	..	..	9,753	10.69
3.	Enlargement of tonsils and adenoids	..	..	..	1,858	2.04
4.	Defects in hearing	..	..	..	428	.47
5.	Defects in eyes	..	..	Diseases of the lids	5,047	5.53
				Vision	583	.64
6.	Defects in speech	..	..	..	120	.13
7.	Tuberculosis	..	..	Pulmonary	90	.10
				All other forms	175	.19
8.	Lung diseases other than tuberculosis	..	..	..	993	1.09

	Number of children who had defects.	Percentage of such children to total children examined.
9. Heart diseases	156	.17
10. Alimentary diseases (other than tuberculosis of abdomen) ..	930	1.02
11. Anaemia	755	.83
{ Evidence of parasites or other diseases.		
{ Enlargement of spleen ..	3,680	4.34
12. Deformities	76	.08
{ Congenital		
{ Acquired	319	.35
13. Skin diseases	2,428	2.60
14. Infectious diseases	788	.86
15. Unprotected against small-pox	11,681	12.80
16. Protected by vaccination or re-vaccination	69,265	75.93

The civil surgeons have reported from 31 districts that in municipal areas 28,268 scholars attended the dispensaries, but only 5 per cent. on the advice of the Public Health staff.

In rural areas 51,100 scholars attended, but only 1.7 per cent. on the advice of the Public Health staff. The percentage is a slight improvement on last year's record, but the number is very low both in municipal and rural areas in all places except in four. This is not a satisfactory state of affairs. As a remedy clinics, travelling or fixed, have been suggested by the School Health Officers, and the possibility of establishing at least the former for a limited area is worthy of consideration if funds permit.

The teachers have co-operated with the officers of the department, but parents have not yet responded to the scheme to the same extent. In a few schools records of weight are not kept regularly and the machines have either not been provided or are out of order. Test cards too have not been provided in many schools, hence the low estimate of defects in vision. One school in a municipal area has been provided with a spittoon in each class. This shows that the impropriety of indiscriminate spitting is realized, but the presence of the vessel in a class room can be anything but a good object lesson.

The village aid dispensaries have proved very useful for the treatment of school boys in the rural areas wherever they exist. These should, as far as possible, be kept with Councillors of Junior Red Cross groups.

The remarks made last year on the teaching of hygiene hold good this year as well. The question of teaching health habits by the existing agency of the teachers under the guidance of the medical officers of health in municipalities and districts took a definite shape in the formation of the Junior Red Cross groups in schools. In the year 1930 there were 75 groups with a membership of 2,993 scholars. It has been mentioned that the commonest defects are due to the neglect in personal hygiene, and it is calculated that this movement will impress the necessity of practising health habits, as it has already been noticed that the boys of the Junior Red Cross groups recently formed are distinctly a smarter and cleaner lot. The Junior Red Cross work is essentially a school work and should not necessarily be confined to the juniors under 16 as its spread among the bigger boys will be a step towards adult education in health habits. The Mackenzie school course in first aid, an activity in which the Public Health staff has taken a part during the year, health songs, health dramas, health essays and others are all included among the activities of the movement, besides the holding of meetings, discussions, gardening, outings, etc. (vide Chapter X).

The School Health Officers also inspected the sanitation of school premises, water supply, adequacy of ventilation, etc., in class rooms, the suitability of school furniture and mats in each school and advised improvements.

Schools were closed in some cases on their advice owing to prevalence of infectious diseases with a resulting fall of attendance, and some boys were excluded temporarily during the period of infectivity or kept apart from others in the class. It has generally been urged by both medical officers of health in municipalities and districts that their approval should be made an essential condition to the hiring of a building for vernacular schools as a means of enforcing necessary alterations in the existing defects in school buildings. They should also be consulted when new buildings for schools are erected and the provision of a sanitary well or tube-well must be made a *sine qua non*.

The cooking of food by teachers in the school verandah or rooms in rural areas is to be strongly deprecated.

CHAPTER XIV.

VACCINATION.

Period covered. This chapter deals briefly with vaccination in 1930-31 as compared with 1929-30.

Vaccination staff. 2. The number of assistant superintendents of vaccination and vaccinators during the year 1930-31 was 49 and 920, respectively, against 50 (49 permanent and one temporary) and 916, respectively, during the previous year.

Expenditure on vaccination. (Vaccination Statement II.) 3. During 1930-31 there was a decrease of Rs. 20,930 in the total expenditure, including the charges on account of the Assistant Directors of Public Health and their establishment and Rs. 7,348 excluding these charges as compared with 1929-30, the total amounts spent during the two years being Rs. 4,79,766 and Rs. 5,00,696 and Rs. 4,24,110 and Rs. 4,31,458, respectively. The decrease is chiefly attributable (1) to the decreased expenditure under the Government Bovine Lymph Dépôt, Patwa Dangar, and (2) to the fact that the Assistant Director of Public Health, II Range, officiated as Director of Public Health for about 8 months and was on leave ex-India for over 3 months during the year.

Average cost of each successful case of vaccination. (Vaccination Statement II.) 4. The average cost of each successful case of vaccination in these provinces during the year under report was practically the same as in the preceding year. The figures for the two years were annas 4 and pies 4 and annas 4 and pies 3, respectively. The following table shows the average cost of each successful case of vaccination in these provinces during the year under report as compared with other provinces :—

Provinces.					Cost of each successful case of vaccination during 1930-31.		
					Rs. a. p.		
United Provinces	..	..	..	..	0	4	4
Bihar and Orissa	..	..	..	..	0	2	6
N.-W. F. Provinces	..	..	..	..	0	2	0
Delhi	..	..	..	..	0	5	4
Assam	..	..	..	..	0	4	4
Bengal	..	..	..	..	..	*
Punjab	..	..	..	..	..	*
Burma	..	..	..	..	0	11	11
Central Province	..	..	..	..	0	7	1
Madras	..	..	..	..	0	7	7
Bombay	..	..	..	..	1	0	9

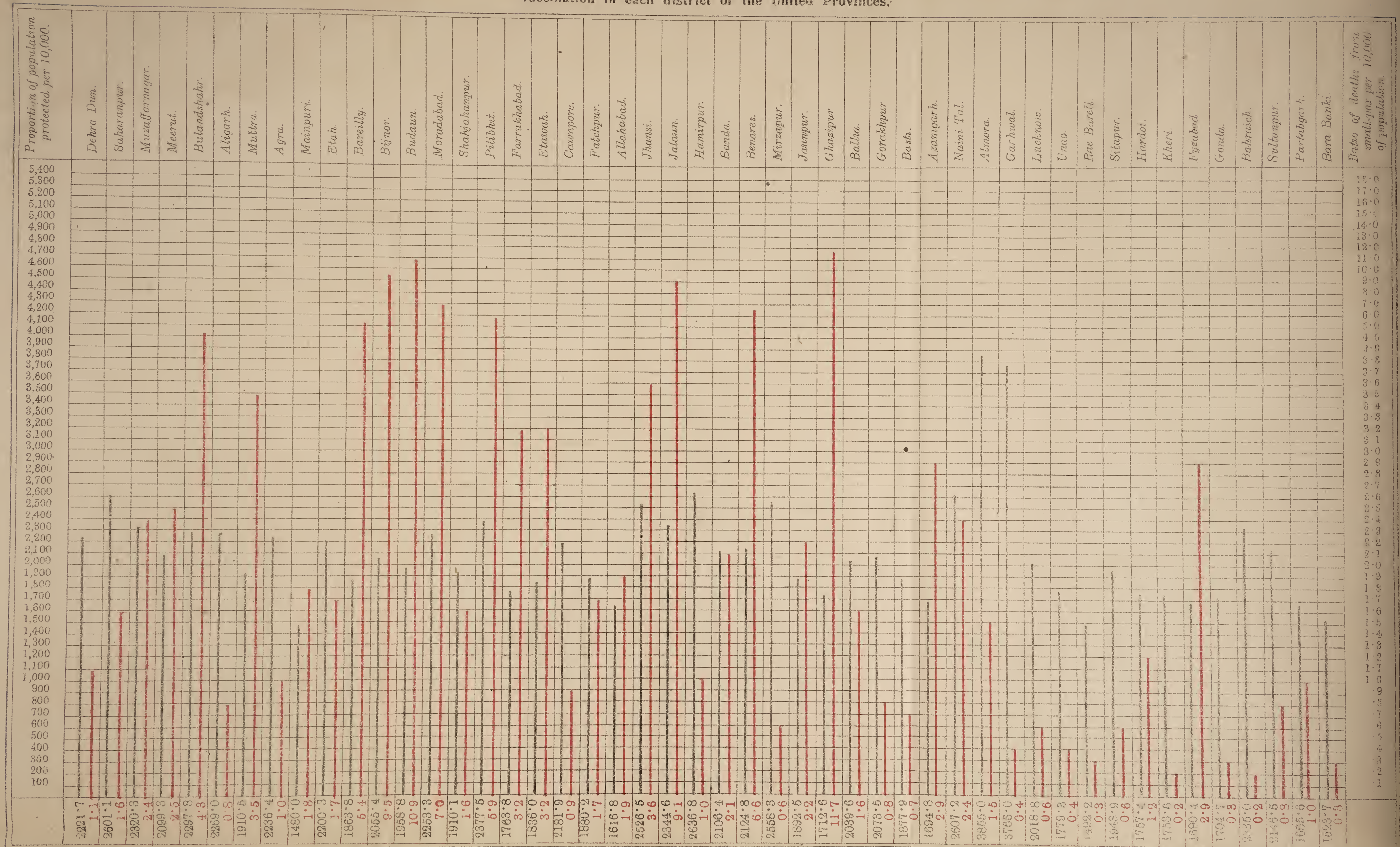
* Information not received.

General operations. (Vaccination Statement I.) 5. During 1930-31 1,537,477 persons were vaccinated (1,532,956 by the special (district) staff, 580 by dispensary staff, 1,526 by private practitioners and 2,415 at railway dispensaries) as against 1,619,582 in 1929-30 indicating a decrease of 82,105. The number of vaccination operations performed during the year under report also exhibited a decrease of 80,883 as compared with the preceding year, the actual figures for the two years being 1,560,908 (1,423,500 primary and 137,408 revaccinations) and 1,641,791 (1,469,821 primary and, 171,970 revaccinations). The number of secondary operations rose from 22,209 in 1929-30 to 23,431 in 1930-31. The number and percentage of successful vaccinations in which the results were known during 1930-31 amounted to 1,337,630 and 95.06 in the case of primary vaccinations and to 58,673 and 47.70 in the case of re-vaccinations as against 1,374,372 and 94.72 and 69,101 and 43.79, respectively, in 1929-30. Each vaccinator vaccinated on an average 1,666 persons in 1930-31 as compared with 1,770 in 1929-30.

It will be seen that there is a decrease under all heads. The chief causes of this decrease were :—

- (1) the political movement;
- (2) prevalence of malaria, fever and plague in certain districts;
- (3) decrease of vaccination staff in the Mirzapur district and non-employment of extra vaccinators in 4 tahsils of Gorakhpur;
- (4) slackness on the part of vaccinators and assistant superintendents of vaccination in certain districts.

Diagram showing the relation between the death-rate from small-pox and the proportion of population protected by vaccination in each district of the United Provinces.



The black lines and figures indicate proportion of population protected by vaccination during the year 1930-1931 and the six years preceding it.
The red lines and figures indicate the death-rate from small pox during 1930.

6. In 19 out of 48 districts the number of successful primary vaccinations performed in 1930-31 was in excess of that performed during the preceding year. Of these Gonda headed the list with an increase of 2,079 followed by Saharanpur with 1,661, Meerut with 1,512, Rae Bareilly with 1,053, Shahjahanpur with 1,018 and Bahraich with 882. Of the remaining 29 districts showing a falling off the most conspicuous were Gorakhpur with a decrease of 15,335, Farrukhabad with 3,918, Cawnpore with 3,851, Hardoi with 2,821 and Fatehpur with 2,418.

Successful
primary vaccina-
tions in different
districts.
(Vaccination
Statement I)

The causes of decrease in these districts were :—

Gorakhpur.—(a) Prevalence of plague and (b) non-employment of extra vaccinators in the tahsils of Gorakhpur, Deoria, Hata and Bansgaon.

Farrukhabad.—Slackness on the part of vaccinators and lack of supervision on the part of the assistant superintendent of vaccination, who has been transferred.

Cawnpore.—Congress movement and riot.

Hardoi.—(1) Appointment of new vaccinators in place of experienced vaccinators on leave, (2) a lesser number of children being available owing to the prevalence of malaria, (3) slackness on the part of certain vaccinators who were suitably dealt with, and (4) the stoppage of the supply of uniforms to vaccinators whom the public did not recognize in ordinary clothes and so generally refused to get their children vaccinated by unauthorized persons.

Fatehpur.—(1) The disturbed condition on account of political movement, (2) employment of a number of new and inexperienced vaccinators in place of the experienced ones, (3) prevalence of malaria, and (4) undue amount of sickness amongst the vaccination staff due to malaria.

7. The number of persons successfully vaccinated per 1,000 of the population in 1930-31 was 30.77 against 31.81 in 1929-30. The districts showing the highest degree of protection were Garhwal (58.98), Almora (52.93), Mirzapur (41.15) and Saharanpur (40.78).

Successful
vaccination and
degree of protec-
tion afforded.
(Vaccination
Statement I.)

Among those showing the least protection the most conspicuous were Mainpuri (20.95), Fatehpur (21.77), Hardoi (23.83), Allahabad (24.72) and Farrukhabad (24.81). The causes of the low amount of protection in Fatehpur, Hardoi and Farrukhabad have already been mentioned in the above paragraph. In Mainpuri and Allahabad this was due to slackness on the part of vaccinators and political agitation. In Mainpuri the tactlessness of the assistant superintendent of vaccination was also an additional factor.

8. In 1930-31 the percentage of successful operations in proportion to births showed a decrease under all heads as compared with the preceding year, the ratios for the two years being 53.53 and 56.10 in the case of children under one year of age, 21.71 and 27.64 in the case of those between one and six years, and 79.00 and 88.23 in the case of all ages, respectively.

Vaccination in
proportion to
births and
according to age.

An analysis of the figures of the different ranges shows that during the year under review 60.07 children under one year of age were successfully vaccinated per 100 births in the 1st range as against 60.39 in the preceding year. The figures for the 2nd and 3rd ranges were 47.78 against 50.90 and 50.86 against 55.13, respectively. As usual the 1st range showed the best protection in comparison to other ranges.

9. The total number of deaths registered from small-pox in 1930 amounted to 11,071 indicating a death-rate of 24 against 11,725 and 26, respectively, in 1929. The quinquennial average was 19.

Mortality from
small-pox

10. The diagram appended shows the relation between the mortality from small-pox and the protection afforded by vaccination in each district.

Diagram.

11. The total number of vaccination operations performed by medical subordinates at dispensaries during the year 1930-31 was 580 (116 primary and 464 revaccinations) against 1,459 (528 primary and 931 revaccinations) in 1929-30.

Dispensary
vaccination.
(Vaccination
Statement I.)

12. Previous to the year 1930 vaccination statistics of vaccination operations done by the railway medical staff at railway dispensaries situated in the United Provinces were not received in this office, with the result that the departmental monthly and annual vaccination returns were incomplete in this respect. In order that complete figures of vaccinations performed in the United Provinces may as far as possible be available, with the approval of the Local Government various railway authorities in the province were asked to furnish monthly vaccination statistics performed by the railway

Vaccination by
railway staff at
railway
dispensaries.

medical staff at the railway dispensaries to the district medical officers of health or civil surgeons within whose jurisdiction such dispensaries were situated. At the same time the departmental officers were asked to include these figures in their monthly and annual returns submitted to this office. The figures thus received from the railway authorities have been included in the provincial returns (Vaccination Statement I) under a separate heading "Other agency—Railway dispensaries".

In all 2,415 vaccinations (610 primary and 1,805 revaccinations) were performed by the railway medical staff. The percentage of successful cases in which the results were known was 92·69 in the case of primary vaccinations and 40·30 in the case of revaccinations.

Vaccination in municipalities.

13. As in the case of districts, the vaccination work performed in municipalities during the year under review showed a decrease as compared with that of the preceding year, the total number of persons vaccinated during the two years being 140,819 and 168,077, respectively. The total number of vaccination operations performed in municipal towns in 1930-31 was 144,517 (114,019 primary and 30,498 revaccinations) and that in 1929-30 171,940 (117,422 primary and 54,518 revaccinations). The ratio of persons successfully vaccinated per mille of the population was 39·30 against 41·23 in the preceding year.

Among the well protected municipalities Mussoorie occupied the first position with a ratio of 114·38 per mille and was followed by Almora, Etah, Rae Bareilly and Gonda with ratios of 95·30, 92·94, 64·51 and 63·20, respectively.

Among those showing the least protection Shahabad, Lucknow, Mainpuri, Fyzabad and Farrukhabad were the worst giving ratios of 23·05, 23·60, 24·71, 25·96 and 26·13 respectively.

In Shahabad the decrease is stated to be due to the prevalence of malaria. Farrukhabad showed an improvement over last year. In Lucknow it is attributed partly to the civil disobedience movement and partly to slackness on the part of some vaccinators, in Mainpuri to slackness of some vaccinators, the tactlessness of the assistant superintendent of vaccination and political agitation and Fyzabad to low birth-rate.

The number of successful vaccinations performed on children under one year of age in the municipalities during the year under report was 79,102 against 77,392 in 1929-30, indicating an increase of 1,710, vide vaccination appendix B.

Vaccination in cantonments.

14. In 1930-31 the total number of persons vaccinated in cantonments was 14,489, of vaccination operations 14,541 (5,578 primary and 8,963 revaccinations), of successful primary vaccinations 5,242, and of successful revaccinations 4,622 as compared with 16,115, 16,162, 5,190 and 5,358 respectively, in 1929-30. The ratio of persons successfully vaccinated per mille of the population was 49·31 as against 52·73 in the preceding year.

Of the cantonments showing best protection Chakrata stood first with a ratio of 813·57, followed by Ranikhet with 222·47, Landaaur with 132·38 and Fyzabad with 98·33.

The worst protected cantonments were Roorkee (11·63), Allahabad (12·48), Dehra Dun (14·96), Muttra (16·28) and Benares (16·59).

During the year the Director of Medical Services in India altered the dates of submission of the six-monthly vaccination returns of the vaccinations performed by military medical officers from July and January to October and April, respectively, which resulted in the receipt of these returns for financial year instead of for calendar year.

The returns received from the military medical officers show that 11,202 operations (420 primary and 10,782 revaccinations) were performed by them in 1930-31, out of which 8,749 (389 primary and 8,360 revaccinations) were successful. The corresponding figures for the calendar year 1929 were, respectively, 14,762 (228 primary and 14,534 revaccinations) and 9,803 (164 primary and 9,639 revaccinations).

Vaccination in notified areas.

15. During the year under review the total number of persons vaccinated and that of vaccination operations performed in notified areas was 16,902 and 17,485 (15,085 primary and 2,400 revaccinations) as against 18,241 and 18,772 (15,317 primary and 3,455 revaccinations), respectively, in the preceding year. The numbers of successful primary vaccinations and revaccinations were, respectively, 13,635 and 655 as compared with 13,687 and 970, respectively, during 1929-30. The ratio of persons successfully vaccinated per 1,000 of the population was 37·28 as against 39·05.

Amongst the well protected notified areas Moghal Sarai stood first with a ratio of 102·47 followed by Bhowali (Naini Tal) with 100·55, Gorakhpur with 76·40, Bhinga (Bahraich) with 61·54, Bhimtal (Naini Tal) with 57·99 and Karwi (Banda) with 56·78. The worst protected notified areas were the Chunar settlement (in the Mirzapur district) with 13·50, Rikhikesh (Dehra Dun) with 15·71, Rajpur (Dehra Dun) with 20·08, Bilgram (Hardoi) with 21·51 and Ramnagar (Naini Tal) with 23·36.

16. During the year under report the inspection of school children for vaccination was as usual carried on by the Public Health staff. **Vaccination of school children.**

17. The Vaccination Act is in force in all municipalities, cantonments and notified areas. During the year under report the provisions of the Act were extended to the notified area of Bindki (Fatehpur). The Government has also sanctioned the extension of the provisions of the Act to the Rajpur town area (Dehra Dun) with effect from November 1, 1931. **Application of the Vaccination Act.**

18. The United Provinces Vaccination Bill for making vaccination compulsory in rural areas has been dropped by Government for the present. **Compulsory vaccination in rural areas.**

19. (a) *By assistant directors of public health, district medical officers of health and civil surgeons.*—These officers inspected 232,291 vaccinations (227,171 primary and 5,120 revaccinations) during 1930-31 as compared with 210,791 (208,102 primary and 2,689 revaccinations) in 1929-30, showing an increase of 21·500. The percentage of inspections to total number vaccinated was 16·24 in the case of primary vaccinations and 3·82 in that of revaccinations as against 14·38 and 1·57, respectively, in the preceding year. **General results of inspection. (Vaccination Statement IV.)**

The district of Jaunpur which stood second last year showed the highest number of inspections (15,105) made by these officers and was followed by Bahraich (14,493), Sultanpur (13,426), Hardoi (13,208), Gorakhpur (13,146) and Basti (13,012). Among the districts showing the smallest number of inspections the most conspicuous were Almora (85), Cawnpore (140), Bijnor (286), Mainpuri (438), Pilibhit (680), Farrukhabad (730) and Meerut (736).

No inspections were done in the districts of Dehra Dun, Agra, Bareilly and Shahjahanpur. The civil surgeons of the first three districts are not required to inspect vaccination work.

(b) *By assistant superintendents of vaccination and other inspecting officers.*—The number of inspections made by this staff shows a decrease of 51,832 inspections in 1930-31 as compared with that in 1929-30, the figures for the two years being 615,144 (577,679 primary vaccinations and 37,465 revaccinations) and 666,976 (612,686 primary and 54,290 revaccinations). The percentage of inspections to the total number vaccinated was 41·29 as regards primary vaccinations and 27·99 as regards revaccinations as against 42·33 and 31·78, respectively, in 1929-30. As usual the largest number of inspections was done in Gorakhpur (32,786), there being two assistant superintendents of vaccination in that district. Agra followed with 21,014 inspections, Garhwal with 20,864, Cawnpore with 18,921, Basti with 19,405 and Bareilly with 19,292. The districts showing the smallest number of inspections were Fatehpur (4,766), Dehra Dun (4,220), Aligarh (5,651), Naini Tal (6,185), Mainpuri (7,126) and Farrukhabad (7,240). The attention of the district medical officers of health and civil surgeons of these districts will be drawn to the short work shown by their assistant superintendents of vaccination.

As usual Banda showed the highest percentage of inspections of primary vaccinations (77·81) to the total number vaccinated. It was followed by Ballia (67·99), Etawah (67·69), Bareilly (66·10) and Dehra Dun (63·87). The lowest percentages were noticed in the districts of Aligarh (16·15), Moradabad (19·24), Meerut (25·82), Azamgarh (28·06) and Bara Banki (30·43).

(c) *Verification of the percentage of general vaccinations.*—According to the reports of vaccinators the percentages of successful operations for the province were 95·06 in the case of primary and 47·92 in that of revaccinations, whereas as a result of the inspections made by assistant superintendents of vaccination these were found to be 92·50 and 31·58, respectively. Out of the cases inspected by assistant directors of public health, district medical officers of health and civil surgeons, the percentages of successful cases for the province were 94·64 and 32·57, respectively.

Occurrence of cases of encephalitis following vaccination. Provincial Bovine Lymph Dépôt. Patwa Dangar (district Naini Tal).

20. From information received up to date it appears that no cases of encephalitis following vaccination were noticed by any of the inspecting officers during the year under report.

21. The charge of the dépôt was held by Major E. H. Morbey throughout the year.

(a) *Supply of calves.*—A butcher of Moradabad was given the contract for the supply of calves at Rs. 13 per calf. The class of animals supplied was not so good as anticipated. The first few consignments were good, but towards the end the animals supplied were poor and emaciated and in several cases were suffering from infectious disease.

The total number of calves purchased and obtained on fees locally during the year under report was 449 (52 cow and 397 buffalo calves) against 608 (94 cow and 514 buffalo calves) in the preceding year. Out of 449 calves 426 were successfully vaccinated, 2 failed and 21 died. Appended is a statement showing the disposal of these calves :—

				Cow.	Buffalo.
1.	Sold to the Serum Institute, Izatnagar .. .. .	..	..	..	300
2.	Sold to private persons .. .. .	..	..	..	21
3.	Returned to owners .. .. .	..	..	51	13
4.	Died (41 vaccinated and 23 unvaccinated) .. .. .	..	..	1	63
Total				52	397

The majority of deaths of calves were due to rinderpest.

(b) *Quantity of lymph obtained and manufactured.*—During the year under report 19,569.9 grammes of crude lymph were obtained from 426 successfully vaccinated calves, giving an average yield of 45.9 grammes per calf against 27,561.3 grammes from 579 calves with an average product of 47.6 grammes per calf in the previous year, a decrease of 1.7 gramme per calf. 58 grammes of crude lymph were also obtained from rabbits. The average yield of crude lymph per cow and buffalo calf was 15.2 and 50.2 grammes as compared with 22.7 and 52.4 grammes in the preceding year, showing a decrease of 7.5 and 2.2 grammes, respectively. 98,139.5 grammes of glycerinated lymph of the strength 1—5 including 290 grammes of lymph obtained from rabbits were manufactured. The total quantity of lymph prepared for issues was 155,484 $\frac{1}{4}$ grammes (1—5) against 181,433 (1—5) grammes in the preceding year.

(c) *Issue of lymph.*—The total quantity of lymph issued for vaccination during the year was 112,145 $\frac{1}{2}$ grammes in metal collapsible tubes and 166,863 glass capillary tubes sufficient to vaccinate 2,970,500 persons as against 114,752.5 grammes in metal collapsible tubes and 163,673 glass capillary tubes sufficient to vaccinate 3,032,485 persons in the preceding year.

Of the above quantity 406 grammes in metal collapsible tubes and 1,084 glass capillary tubes to the value of Rs. 317 were issued free for use in jails and charitable institutions as against 316 $\frac{1}{2}$ grammes in metal collapsible tubes and 2,116 glass capillary tubes to the value of Rs. 329 in the preceding year.

(d) *Lymph set aside in the cold storage plant.*—28,016 grammes of glycerinated lymph (1—5) and 6,786 grammes of seed lymph have been set aside in the cold storage for issue in 1931-32, as against 47,234.2 grammes of glycerinated lymph (1—5) and 10,110.5 grammes of seed lymph (1—5) set aside in the preceding year, which was issued during 1930-31.

(e) *Results of vaccination with the lymph issued.*—The total number of vaccination, performed (as reported) with calf lymph amounted to 1,556,387 (1,422,415 primary and 133,972 revaccinations) as compared with 1,643,332 (1,469,293 primary and 171,039 revaccinations) in 1929-30.

The following table shows the results of vaccinations performed during the year under report as compared with the preceding year :—

Period.	Successful.		Unsuccessful.		Percentage.	
	1930-31.	1929-30.	1930-31.	1929-30.	1930-31.	1929-30.
<i>Primary vaccinations.</i>						
April to September ..	25,853	30,451	4,085	5,634	86·35	84·39
October to March ..	516,622	588,758	36,174	40,194	93·46	93·61
Total ..	542,475	619,209	40,259	45,828	93·09	93·11
<i>Revaccinations.</i>						
April to September ..	4,907	9,334	8,736	15,685	35·97	37·31
October to March ..	22,147	24,935	19,326	27,045	53·40	47·97
Total ..	27,054	34,269	23,062	42,730	49·08	44·50

Complaints regarding the potency of the lymph supplied having been received an investigation was made. It was found as usual that the percentage of unsuccessful cases is much higher during October than that in November. The percentage of success during the period (November to March) is high, and it is highest in the coldest months as will be seen by the statement appended :—

Year.	Percentage of success obtained from primary vaccinations during—						
	October.	November.	December.	January.	February.	March.	April.
1928-29 ..	76·44	94·23	95·04	96·93	97·05	96·73	90·37
1929-30 ..	84·96	92·86	95·90	96·57	95·96	96·16	83·76
1930-31 ..	81·15	95·22	95·92	96·46	97·03	96·47	89·32

It is therefore obvious that the potency of lymph issued is not responsible for any lack of success, and that it is altogether due to the high temperature in October combined with the high relative humidity which results in the lymph rapidly losing its potency. I have, therefore, recommended to Government that the date of commencement of the vaccination season in the plains should be altered from October 1 to November 1. This would result in a considerable saving to Government as the lymph now issued during the month of October is to a certain extent wasted. It is no doubt true that the vaccinators would have to work harder to carry out more operations in a shorter period, but the results would be much more satisfactory than at present.

(f) *Contract price of lymph.*—The contract rates for the Notified Area Committees on account of cost of lymph supplied to them were realized early in the year. There has been a considerable delay in the reporting of realizations from the municipal and district boards by the Pay and Accounts Officer, and he has been addressed on the subject. The period of contract for the supply of lymph to local bodies at certain fixed rates expired on March 31, 1931. By this arrangement the dépôt lost Rs. 12,323. This was probably due to the fact that increased vaccination work was carried out by local bodies. Revised contract rates have therefore been proposed to Government.

Lymph was supplied to the military authorities on the revised contract rate of Rs. 1,470, while the value of lymph actually supplied was Rs. 1,259, resulting in a net gain of Rs. 211 to the dépôt.

(g) *Sales and expenditure of the dépôt.*—The total value of lymph and other articles sold by the dépôt during the year under report amounted to Rs. 43,125 (Rs. 40,458 by the sale of lymph and Rs. 2,667 by the sale of miscellaneous articles, e.g., calves, rabbits, etc.) as against Rs. 45,617

(Rs. 39,976 by the sale of lymph and Rs. 5,641 by the sale of miscellaneous articles) in the preceding year. The decrease is mainly due to the fact that the cost of old machinery is included in the figure for the last year.

The total expenditure of the dépôt during the year under report (inclusive of Rs. 1,889 on account of pensionary charges and Rs. 1,000 on account of depreciation of machinery) amounted to Rs. 45,278 as against Rs. 48,864 in the preceding year. A comparison of the income of the dépôt with the expenditure during the year under report shows a loss of Rs. 2,153 (including pensionary and depreciation charges), but it is only apparent, as if the expenditure of Rs. 3,180 on account of maintenance and upkeep of buildings and roads is included, the dépôt will be found to have worked at a profit of Rs. 1,027.

A statement showing the annual output of lymph and the income and expenditure of the dépôt since its establishment is appended :—

Year.			Quantity of lymph issued.				Income.	Expendi- ture.
			Glycerinated lymph.		Glycerine paste.	Lanoline paste.		
			Tubes.	In bulk.				
				Grammes.	Grammes	Grammes.		
				Grs.	Grs.	Grs.	Rs.	Rs.
1904-5	..	..	21,049	Nil.	Nil.	79 0	106	3,300
1905-6	..	..	74,800	98 0	Nil.	120 0	2,057	7,789
1906-7	..	..	113,945	205 0	1,367 0	19 0	3,527	5,741
1907-8	..	..	198,224	Nil.	663 12	161 0	6,118	6,717
1908-9	..	..	243,722	3,806 3	749 0	4 0	8,572	12,573
1909-10	..	..	249,974	9,147 0	414 0	4 0	6,527	10,524
1910-11	..	..	353,939	9,392 0	45 0	6 0	14,211	12,097
1911-12	..	..	193,353	41,460 12	44 0	Nil.	18,780	13,030
1912-13	..	..	130,445	53,427 13	83 3	Nil.	24,019	14,894
1913-14	..	..	193,932	72,296 10	79 7	Nil.	28,867	17,247
1914-15	..	..	296,423	94,447 13	382 0	8 7	39,174	20,703
1915-16	..	..	150,347	83,110 7	66 0	Nil.	30,789	21,228
1916-17	..	..	169,880	82,960 0	36 0	Nil.	31,066	21,348
1917-18	..	..	172,462	86,653 12	Nil.	Nil.	32,681	21,910
1918-19	..	..	185,699	91,653 0	34 0	Nil.	32,836	25,297
1919-20	..	..	173,317	94,354 10	6 11	Nil.	35,430	31,547
1920-21	..	..	137,633	89,609 4	14 0	4 0	37,141	39,217
1921-22	..	..	135,448	87,093 12	6 0	Nil.	39,169	33,259
1922-23	..	..	331,668	69,436 12	5 0	Nil.	41,354	35,138
1923-24	..	..	89,693	86,993 12	11 0	Nil.	37,967	36,014
1924-25	..	..	108,231	86,332 8	4 0	Nil.	37,251	41,647
1925-26	..	..	123,047	93,056 4	4 0	Nil.	38,357	47,592
1926-27	..	..	145,037	101,693 0	263 0	Nil.	37,603	45,916
1927-28	..	..	136,259	113,851 12	15 8	Nil.	42,514	43,340
1928-29	..	..	143,843	107,280 0	3 0	Nil.	43,911	44,894
1929-30	..	..	163,673	114,752 8	Nil.	Nil.	45,617	48,864
1930-31	..	..	166,863	112,145 8	Nil.	Nil.	43,125	45,273

(h) Cold storage plant and the electric installation.—The plant and the electric installation worked satisfactorily.

(i) *Buildings and roads.*—The roads are in a satisfactory condition, but a considerable amount of wood-work on buildings must be replaced during next year owing to wood rot. An extension was carried out during the year for housing rabbits and new hutches were made according to the specifications of the new one imported last year.

(j) *Audit.*—The accounts of the dépôt were audited during the year, and the objections and notes made were of a trivial nature.

(k) *Staff.*—The staff worked satisfactorily.

The revised scale of pay proposed for the laboratory assistants of the dépôt was not passed by Government for financial reasons.

22. During 1930-31 experiments in the modified method of vaccinating children by three vertical incisions and omitting the cross-incisions in order to decrease the post-vaccinal ulceration were continued in the districts of Naini Tal, Bulandshahr and Agra, and were also carried out in the districts of Lucknow and Partabgarh. The result achieved are summarised below :—

Experiment with
a modified method
of vaccination.

Naini Tal.—In all 374 primary vaccinations were performed by the multiple linear scratch and 367 by the cross-scratch. Out of these the results of 344 of the former and 331 of the latter were known. The number of successful operations amongst the known cases was 315 in the case of multiple linear scratch and 311 in that of cross-scratch, giving a percentage of success of 91·57 and 93·9, respectively.

The total revaccinations with the revised method and the old method were 333 and 337, respectively, and the number of cases in which the results were known was 272 and 277, respectively. The percentage of successful revaccinations was 43·7 and 42·2, respectively.

The percentage of post-vaccinal ulceration with the modified method was 3·17 in the case of primary and ·84 in the case of revaccinations against 2·89 and 1·71, respectively, with the usual method.

Bulandshahr.—The percentage of ulceration with the modified method was 6·27 in the case of primary and ·56 in the case of revaccinations as compared with 9·61 and 1·9, respectively, with the old method.

The percentage of successful operations was 90·34 and 90·56, respectively, in the case of primary and 5·05 and 12·30 in the case of revaccinations, that is the percentage of successful cases by modified method decreased by ·22 per cent. as regards primary and 7·25 per cent. as regards revaccinations.

Partabgarh.—The new method of vaccination was given an extensive trial. There was a definite decrease in both local and general reactions. The post-vaccinal ulceration was less marked.

Lucknow.—The total number of vaccination operations (all primary) performed by the modified method was 4,555 and that under the old method 10,988. Out of these 4,441 and 10,415 were successful and 103 and 523, respectively, unsuccessful. The number of cases found of unusual ulceration in the two cases was 28 and 110 and of the ordinary cicatrix it was 4,527 and 10,878, respectively. The District Medical Officer of Health says that the modified method appears to be quite successful, popular and an improvement over the older one.

Agra.—8,865 vaccination operations (7,878 primary and 987 revaccinations) were performed by omitting the cross-scratch. Of these 7,466 (7,368 primary and 98 revaccinations) were successful and 1,327 (441 primary and 886 revaccinations) were unsuccessful. The percentage of success was 94·35 in the case of primary vaccinations and 9·96 in the case of revaccinations.

While on tour I inspected many operations performed by modified method and found that the percentage of ulceration was very low. Cross-scratching has been prohibited in many Western countries, and I am issuing orders that the linear method be adopted from the beginning of the next vaccination season in the United Provinces.

23. Vaccination Statement No. III was abolished in 1928 under the orders of Government. The old statements Nos. IV and V have, therefore, been renumbered as statements Nos. III and IV with the approval of Government.

Change in the
numbers of
Vaccination
Statements IV
and V.

CHAPTER XV.

OTHER PUBLIC HEALTH SERVICES.

Industrial Hygiene.

The assistant directors of public health on general duty and the municipal and district medical officers of health who are *ex-officio* additional Inspectors of Factories, inspected a number of factories—perennial and seasonal—and submitted their reports direct to the Chief Inspector of Factories and Boilers.

The Provincial Board of Public Health.

2. Six meetings of the Board of Public Health were held during the financial year ending March 31, 1931, four at Lucknow and two at Naini Tal. The report of their proceedings forms Appendix A to this report.

Fairs.

3. The most important fair of the year was the great Magh Mela Kumbh at Allahabad which takes place once in 12 years and was held during the year under report in the months of January and February. A complete report detailing the public health and medical arrangements made has already been submitted to Government and is also appended to this report as Appendix D.

The entire medical and sanitary arrangements were under the control of Rai Bahadur Dr. K. P. Mathur, D.P.H., Assistant Director of Public Health, III Range, who I am glad to say has received recognition from Government for his excellent work and untiring zeal.

Major General J. D. Graham, C.I.E., I.M.S., Public Health Commissioner with the Government of India, inspected the arrangements on January 30, 1930 and greatly appreciated the work done at the mela.

Subsequent to submitting his report Dr. Mathur submitted a note embodying further points for consideration at the time of drawing proposals for the next Allahabad Kumbh fair, and the same are reproduced here.

(1) It is advisable that the bacteriological examination of water and stools, etc., should be as quick as possible. For this purpose a laboratory must be established within the mela area and preferably inside the Infectious Diseases Hospital.

(2) A permanent bacteriologist should be set apart for the mela period.

(3) A whole-time cashier should be employed in the office of the Assistant Director of Public Health in charge of the fair. He should maintain a complete account of expenditure incurred in the bills drawn by the office of the Assistant Director of Public Health in connexion with the fair, e.g., the pay of the public health staff and other contingent expenses of all kinds.

(4) Special rules should be framed prescribing the duties of the medical staff in cases of fire. They should be hung up in each hospital in the fair.

(5) Separate staff should be told off for the detection of illness within the mela area (inspection of pilgrims inside the pilgrims' enclosures) apart from that deputed for the supervision of conservancy, as both the duties cannot be performed satisfactorily by the same persons. The result is that the detection work is neglected.

(6) A separate medical officer of health with the necessary staff of sanitary inspectors, etc., appears to be necessary to be put in charge of the sanitation of Daraganj sandy area which lies to the north of Izat Bridge. This area is supposed to be looked after by the municipality, but is generally found to be much neglected.

(7) The public latrines nearest the Sangam should have at least 300 seats. The provision of 200 seats made at the last Kumbh was found insufficient.

(8) The arrangements for the disposal of rubbish from the Sangam area require reconsideration. For want of sufficient space and the high water level in this area the digging of pits for the burying of rubbish by submersion into the river at a safe distance down the river is worth consideration.

The Ram Naumi fair at Ajodhya was held from April 5 to 8, 1930. The usual arrangements for the inspection of passengers were made at the Ajodhya and Fyzabad railway stations, at Gogra Bridge and at Lakarmandi Ghat and worked successfully. The fair passed off without the occurrence of an infectious disease.

At Hardwar the Dikhauti fair was held from April 7 to 16, 1930, the Somwati Amawas fair from April 27 to 29, and the Satwa Tej bathing fair from April 30 to May 4, 1930. There were two seizures and one death from cholera before and during the Dikhauti fair, 16 seizures and 6 deaths during the Somwati Amawas and Satwa Tej bathing fairs, and 5 seizures and 3 deaths

at Rikhikesh from April 21 to May 2, 1930. In several cases the patients gave the history of having taken Ganges water just below the points where drains open into the river, and on examination the river water showed the presence of cholera vibrios. Immediate steps for disinfecting the sullage with bleaching powder were taken. The cases were removed to the hospital and infected houses were thoroughly disinfected, contacts kept under observation and were given essential oils mixture.

3,200 Jain pilgrims accompanied by their own medical officer travelled in special trains and, after visiting holy places in Bengal and Bihar, entered the United Provinces for the first time on February 28, 1930 and proceeded to Howrah via Allahabad. After leaving Howrah they visited Azamganj and Bhagalpore in Bengal and Kiul, Bihar Sharif and Bakhtyarpur in Bihar, arriving at Benares on March 29, 1930. The specials stopped for some days at different places and caught infection in Bengal and Bihar, eight deaths having already occurred before entering these provinces. At Benares an outbreak of cholera was reported from two pilgrim carriages and 46 pilgrims were admitted into the municipal infectious diseases hospital, out of which 31 were cured and 15 died. All necessary preventive measures were taken by the department in collaboration with the railway medical authorities. After the trains had left Benares there occurred two fresh cases at Cawnpore, one of which died.

In addition to the above fairs other important fairs such as the Shah-kumber Devi fair (Saharanpur), Garhmuktesar and Nauchandi fairs (Meerut) Piran Kaliar fair (near Roorkee), Syed Salar fair (Bahraich), Amawas fair at Nimsar (Sitapur), Sawan Jhula and Kartiki fairs (Ajodhya-Fyzabad), the Dadri fair (Ballia), the Dipmalika fair (Chitrakote-Banda), the Eclipse fair (Benares), and Kartiki Puranmashi fair at Shivarajpur (Fatehpur) were supervised by the Range assistant directors of public health. These fairs passed off uneventfully. Other fairs were supervised and controlled by the local public health staffs. The working of the Public Address System (set of loud speakers) has been the most notable feature of the year. It played a prominent part at the Magh Mela Kumbh, Allahabad, the Dalmau fair (Rae Bareli) and the Soron fair.

Temporary regulations under the Epidemic Diseases Act were enforced according to emergency.

CHAPTER XVI.

GENERAL REMARKS.

Lepet Asylums.

During the year under report Government sanctioned the transfer of the control of those leper asylums which were under the Public Health department to that of the Medical department. Accordingly all medical officers of health and district medical officers of health who were members of the Managing Committees of these asylums were asked to submit their resignations from the committees to the Inspector-General of Civil Hospitals, United Provinces, with a view to other appointments being made in their places.

Public Health Acts.

2. The only Act directly affecting public health passed by the United Provinces Legislative Council during 1930 was the United Provinces Prevention of Adulteration (Amendment) Act, 1930 (II of 1930). The United Provinces District Boards (Amendment) Act, I of 1930, section 12 of which affects public health, was also passed during the year under report.

Famine.

3. During the year under review scarcity was declared in three tahsils of the Muttra district, viz., Muttra, Mat and Chhatta, with effect from February 3, 1930. Some test works were opened and these continued to work up to the end of July, 1930. Necessary sanitary arrangements at the test works were organized and supervised by the district public health staff. The health of the labourers was fair and medical arrangements as well as arrangements for water supply and conservancy were satisfactory. There was no epidemic in the district except a very mild type of small-pox. Vaccinations and re-vaccinations were, therefore, pushed on and the disease soon subsided. The health of the public in the district was fair.

Public Health Essays.

4. As stated in paragraph 22 of section X of the annual report for 1929, the subject of the essay on public health for 1930 was "A scheme for bringing about a reduction in infantile mortality in rural areas." Altogether 35 essays were received. The best essay was of Shrimati Pista Devi of Shanti Bhawan, Jhansi, and she was awarded the Gold Medal. With a view to make the award of the Gold Medal permanent, the promissory note for Rs. 1,000 donated by Rai Shambhu Dayal Sahib, Honorary Magistrate of Ghaziabad, district Meerut, to meet the cost of the Gold Medal has been vested in the Treasurer of the Charitable Endowments and a scheme for the administration of the fund as required under the Charitable Endowments Trust Act, 1890, was settled with the concurrence of the donor and came into force from November 7, 1930. The Trust shall be called the Rai Shambhu Dayal Sahib Endowment Trust Fund, Ghaziabad, district Meerut.

Corruption in the Public Services.

5. During the year under report the head clerks of the offices of district medical officers of health of Azamgarh and Mirzapur were prosecuted for having misappropriated Government and district board money. The former has been sentenced to a term of 18 months' rigorous imprisonment and to a fine of Rs. 250, and in default to three months' further rigorous imprisonment. The latter is an under-trial prisoner in the District Jail, Mirzapur, and his case is still proceeding in the court. In order to prevent recurrences of this nature the head clerks of district medical officers of health have been required to furnish cash securities of Rs. 100 and to execute security bonds in accordance with the instructions contained in Account Rules nos. 69—73 of the Financial Handbook, Volume V, Part I. The district medical officers of health were asked to examine the condition of their offices and make reports if any defalcations or irregularities were noticed. The Chief Inspector of Offices was also requested to arrange for detailed inspections of all the offices of district medical officers of health, and this is being done.

One Assistant Superintendent of Vaccination was suspected of being guilty of corrupt practices and was as a punishment transferred to another district.

6. Khan Sahib Hafiz Mohiuddin, my head assistant, has, as usual, maintained the high standard of work in my office while B. Brij Lal, who has succeeded M. Abdul Hakim as head clerk, is carrying out his duties satisfactorily. The work of B. Maharaj Bahadur Srivastava, my camp clerk, M. Raihan-ul-Haque, head of the finance section, and Mr. A. C. Banerji has again been of a high standard.

C. L. DUNN, C.I.E., D.P.H.,
LIEUT.-COLONEL,
Director of Public Health, U. P.

NAINI TAL :
Dated June 18, 1931.

Thirty-sixth Annual Report of the Superintending Engineer, Public Health department, United Provinces, for the year ended March 31, 1931.

The extent of the work undertaken by this department during the year under review may be judged from the following statements:—

Item no.	Nature of work.	Amount involved in lakhs of rupees.	Remarks.																								
1	Duties under the Local Authorities Loans Act, 1914, and the Municipalities Act, 1916, i.e., the supervision and inspection of all open water works and drainage pumping stations.	61.15	<p>This amount represents the turn-over in revenue and expenditure on water supply, drainage and electricity supply and is made up as follows :—</p> <table> <tr> <th></th><th>Revenue.</th><th>Expenditure.</th><th>Total.</th></tr> <tr> <th></th><th>Rs.</th><th>Rs.</th><th>Rs.</th></tr> <tr> <td>Water supply</td><td>25,25,076</td><td>21,85,575</td><td>47,10,651</td></tr> <tr> <td>Drainage ..</td><td>46,993</td><td>69,577</td><td>1,16,570</td></tr> <tr> <td>Electric supply.</td><td>6,75,361</td><td>6,12,502</td><td>12,87,863</td></tr> <tr> <td>GRAND TOTAL</td><td>32,47,430</td><td>28,67,654</td><td>61,15,084</td></tr> </table>		Revenue.	Expenditure.	Total.		Rs.	Rs.	Rs.	Water supply	25,25,076	21,85,575	47,10,651	Drainage ..	46,993	69,577	1,16,570	Electric supply.	6,75,361	6,12,502	12,87,863	GRAND TOTAL	32,47,430	28,67,654	61,15,084
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	Rs.	Rs.	Rs.																								
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GRAND TOTAL	32,47,430	28,67,654	61,15,084																								
2	Local works :—																										
	(a) Preparation of projects ..	42.26	Includes 34 detailed proposals and four preliminary estimates.																								
	(b) Construction	7.55	Payments made.																								
3	Provincial Works—																										
	(a) Preparation of projects ..	8.22	26 Detailed projects.																								
	(b) Construction	1.15	Payments made.																								
	(c) Maintenance	0.13	Lucknow Anti-malarial and Allahabad Magh Mela water-supply maintenance.																								
4	(a) Advice free to local authorities ..	13.19	Seventeen forecasts of cost with reports were supplied free.																								
	(b) Advice free for Provincial Works ..	1.14	Nine forecasts of cost and reports were supplied free.																								
5	Board of Public Health business :—																										
	(a) Examination of projects for urban works.	4.37	Five projects were scrutinised.																								
	(b) Examination of projects for rural sanitation.	1.88	Three hundred and thirty-five projects were examined.																								
	(c) Checking progress on urban and rural areas, G. O's. nos. 463/XI, dated February 6, 1931, 470/XI, dated February 6, 1931, 580/XI, dated February 11, 1931, 488/IX, dated April 9, 1931 and 490/IX, dated April 9, 1931.	7.91	Progress reports of divisions were collected and consolidated statements submitted to the Board of Public Health.																								
6	Examination of projects for provincial works.	4.79	Four projects were examined.																								
7	Inspection and reports on works carried out by local authorities themselves.	6.62	Works estimated to cost about Rs. 10.56 lakhs were undertaken by the local authorities themselves on which advice was sought.																								

The total of projects including preliminary proposals and forecasts of cost which have been prepared during the year amounts to Rs. 64.81 lakhs, while the construction work carried out amounts in value to Rs. 8.70 lakhs.

Of the above seven items, fees are recoverable only on item 2, and during the year an amount of Rs. 21,293 was earned as fees on projects completed, against an amount of Rs. 11,370 realised. Including the arrears of the previous year, a sum of Rs. 26,725 was realised as fees for the preparation of projects. Earnings for construction, carried out by this department amounted to Rs. 86,778. Thus for local works a total sum of Rs. 1,03,502 was realised against Rs. 90,000 anticipated as recoveries in this year's budget.

The departmental scale of fees chargeable to Municipal Boards for the preparation of projects and supervision of works, has, during the year, also been made applicable to District Boards, Notified Area Committees and Town Areas; the question of fees to be charged for work done for the Public Works Department, Buildings and Roads Branch and other departments is still under the consideration of Government. This matter was the subject of inquiry during the year by a committee.

If fees were leviable on provincial works also, on the same scale as on local works, a sum of Rs. 30,217 would have been credited in addition to the earnings of Rs. 1,03,502 above mentioned.

The duties which are enumerated in the table under item (2) which absorb the energies of an appreciable amount of the staff of this department are not those which should rightly be shouldered by Government; the system is forced upon the administration owing to the inability of local authorities to employ proper technical staff. With a very few creditable exceptions the estimates which are received from local authorities are of such unsatisfactory nature and so wanting in essential information that they cannot be subscribed to by the inspecting officers. Until the local authorities realise that a certain amount of experience and technical skill is required on the part of their staff, there is no hope of any improvement in this state of affairs.

The department on the whole has had a busy year and there remains a considerable list of works, mainly projects, waiting to be taken up by the three divisions when staff is available. Some arrears also await completion, such as completion plans and reports, the preparation of which has not been possible for the last two years due to pressure of work.

The amount of project work which is undertaken on behalf of local authorities is vast, when the funds which are made available for carrying out the projects are considered. There is a long list of works urgently necessary concerning which funds cannot be provided, within a reasonable time. In this category drainage works are numerous and two works of outstanding necessity, namely, the reconstruction of Lucknow main sewers and the Agra drainage work, are long overdue.

The manner in which local authorities maintain their works has received unfavourable comment in previous reports. Except in one or two instances no improvement can be recorded during the year, and a general deterioration is noticeable rather than an improvement.

Cases have occurred during the year in which the recommendation with regard to the placing of contracts have not been accepted by the local authorities concerned. Some local authorities refuse to acknowledge that water-supply and drainage work entail some experience on the part of the contractors employed, if the works are to prove a success. Inexperienced contractors who are willing to undertake work at unreasonably low rates almost always attempt to evade their responsibilities. The work is in this way delayed, the cost of supervision is increased and inferior work cannot be always avoided. The question of maintaining a list of approved contractors possessing the necessary skill and experience whose tenders only should be considered for such works is under consideration.

The operations involving preparation of estimates, letting contracts and carrying out construction require more serious attention if the rate-payers money is to be spent to the best advantage. A further elaboration of rules was ordered in G. O. no. 1015/XI—91, of April 3, 1930, laying down the procedure which must be followed in letting contracts, as a result of numerous irregularities.

Many of the local authorities seem unable to obtain the services of competent staff or when they do succeed in making an appointment, they fail to hold staff in employment. There is an unhappy custom prevalent; the members of boards interfere in details and undermine the authority of their staff. In this manner it is impossible to fix responsibility for defects and the public interests are badly served. This feature of municipal administration is evident from the frequency with which the rules for appointment of staff are broken or evaded and the dilatory way in which correspondence is dealt with.

A reluctance has been noticed on the part of several boards to take loans for renewals of their plant or for works which are really of capital nature such as extensions of a water supply and the purchase of meters. Since the life of such works is at a minimum ten years duration and in many cases is over thirty years, the inclusion

of its cost under the annual maintenance charges is inadvisable on several grounds; it saddles the present tax-payers with an expenditure which should be shared by future generations; it has a still more serious result in obscuring profits and in leading the local authorities to believe that their operations are being carried out at a loss.

The water supplies and other public works of many of the large municipalities involve large sums of recurrent expenditure and many of the activities also earn revenue on a large scale. Specialised administration of such departments is of importance and the persons chosen to administer these departments should possess such experience and training as to render them capable of inspiring confidence and guiding the policies of local authorities by reason of their permanent positions as trustworthy servants. A local authority working loyally under wise leadership should encounter no difficulty in securing the services of permanent officials of high enough attainments for such posts; such men are the only means by which a local authority can make progress.

WATER SUPPLY—GENERAL.

The consumption of water in practically all the larger towns shows a tendency to increase by leaps and bounds and some of the systems which were already reorganised and extended a few years ago are now working far above their designed capacity. With one or two exceptions no local authority has the courage to undertake steps necessary to control its distribution and restrict waste to within reasonable dimensions. The result in many places is that great discontent is caused by scarcity in supply when the hot weather begins. On the resulting clamour, urgent demands are made by the local authority for extensions to their plant. In the majority of cases where the supply is showing a small profit the surplus is swallowed up under other heads of expenditure by the local authority. The general impression seems to be that Government should assist by means of grants-in-aid to meet the ever-growing demand for water, although the boards persist in neglect to curb waste.

Instances have occurred where works undertaken by this department on behalf of local authorities, have been satisfactorily completed and tested, but the plant has been subsequently neglected, and demands made on Government on grounds that the work was inadequate and ill suited to the purpose required. One remarkable instance took place where certain plant was taken over by a company from a municipal board which has neglected it to such extent that a complete breakdown was imminent. The board left no stone unturned to discredit the work and to use the circumstances brought about by deliberate neglect as a means of forcing further assistance from Government. It was discovered by independent authority that the plant was capable of considerable more output than that declared by the official tests when the defects brought about by neglect had been attended to. Such conduct on the part of a local authority renders the carrying out of works by this department on their behalf, unworkable.

The inequalities in supply which take place in many of the large municipalities remain more marked than ever in spite of additional plant. This is due to neglect to control the distribution and to apply meters in those areas where the pressure is high and the supply continuous. Outlying areas are those usually favoured for desultory metering though the supply there is intermittent and scant. Except in the case of Cawnpore none of the plains municipalities dare tackle this grievous and unpopular question of metering.

The very great disparity between the returns on rates recovered through meters and by assessment ratings is evidence in itself of how the few who pay the meter rates are penalised. The patience of these consumers is striking.

Some boards are conscious of the difficulty of explaining the large recoveries by meters when compared with assessment recoveries and have endeavoured to mask or reduce this difference by reporting the recoveries by meter only as those due to the excess over the amounts on assessment rating.

In present circumstances where there are no funds from which Government can make generous grants-in-aid the question of shortage in some supplies is likely to grow still more acute and in some towns the outlying services may cease to supply water at all during the hot months of the year.

The cure for this state of affairs is the use of adequate numbers of meters for the supplies pumped more than suffice for the legitimate demand of the populations served, were these supplied properly distributed.

It would be in the public interest, if boards who cannot control their distribution, were to sell the system to some reliable company, licensed in the same manner as electricity supply companies who could be trusted to undertake the duty of water supply.

The unpopularity of controlling water supply by means of meters is apparent from a perusal of appendix no. 1 attached to this report. The number of meters

and their maintenance is the acid test of the willingness of a local authority to properly manage its water supply. Some boards will resort to any other course rather than face this unpopular measure.

The Cawnpore Board is a striking exception from the general run and great credit is due to them for the manner in which they have succeeded in converting a loss of Rs. 1·82 lakhs in the year 1922-23 to a profit of Rs. 2·30 lakhs in last year's working. This board also succeeds in getting most of its works projected and carried out by private agencies independently of Government assistance.

The Lucknow and the Meerut boards still persist in disobeying Government orders regarding their revenue accounts of water supply.

Meerut, Mirzapur and Dehra Dun boards endeavour to carry on their water supplies without any water tax and the Meerut and Mirzapur water supplies are in a most unsatisfactory financial state; as far as Mirzapur is concerned progressive deterioration has been noticed and the system now is in a worse state than hitherto recorded.

The Meerut supply should, if properly maintained, be in the most favourable position of any water supply in the province, having paid back all its original sinking fund and interest charges but it is in a state of rapid deterioration and false economies are being practised.

DRAINAGE—GENERAL.

The remarks made in previous reports apply during the year under reference and the drainage of the mohallas of most of the large towns in this province remains a disgrace to the local authorities. Even where sewers have been constructed by the munificence of Government no effort is made to use them intelligently, much less extend the system; the road side drains in almost every case may be seen to be flooded with sillage for want of a connection to the adjacent sewer a work costing only a few hundred rupees.

Drainage construction is the most unpopular work with the staff of this department owing to the delays which take place and the ever present danger of suits for damages.

Authentic records of the limits of public land are almost impossible to procure and as soon as excavation is started numerous objections are raised by property owners in the vicinity of the alignment which entail exasperating delays.

The danger of exceeding estimates in circumstances of this kind is very great and before any drainage work is undertaken in future, it may prove necessary to insist on accurate large scale plans being prepared shewing the extent of public property and the local authority concerned must also be required to deal with all encroachments discovered before construction is put in hand.

The management of sewage farms is a business in which the local authorities lose a considerable amount of income. In order that some basis of calculating the cost of upkeep of a sewage farm and the revenues derivable therefrom might be obtained, the Board of Public Health made a grant so that the Muttra sewage farm might be managed by the Executive Engineer. This farm has only been put under cultivation since 1929 and the average rent per acre per annum realised by public auction has now reached a figure of Rs. 104.

OPERATIONS OF LOCAL AUTHORITIES AND OTHER WORKS.

AGRA.

Waterworks Maintenance.—No improvement can be reported in the condition of the steam, oil engine and centrifugal pumping sets; these have not been properly reconditioned, due to lack of spare parts, which the board have for years persistently refused to order.

No improvement has been made in the number of meters maintained; only one quarter of the total number of ferrule connexions of one half inch size and upwards are metered. The revenue derived from the metered connections was 4·86 annas per thousand gallons compared with 1·80 annas realised by assessment ratings.

The district waste detecting meters have lain in disuse and neglected for years; these require replacement or reconditioning. The district areas and even the zones of high and low pressure have been inter-connected and it is therefore impossible to locate areas and measure the supply where excessive consumption takes place. Government gave a liberal grant for this special purpose amounting to several lakhs of rupees and the failure to maintain the distribution system as designed renders all this large expenditure nugatory.

The increase in the number of connections and in the uncontrolled consumption has reduced the pressure to such an extent that great difficulty is experienced in giving an adequate supply in some of the outlying districts. The demand has already outgrown the capacity of the steam pumping plant and additional filtered

water pumping plant is required. Complaints are becoming increasingly frequent and this water supply is in anything but satisfactory condition. **AGRA—(contd.).**

Water Supply Improvement, Rs. 3.76 lakhs.—The failure to complete the agreement between the Electric Supply Company and the Municipal Board resulted in the new electro-motor driven raw water pumping sets being prevented from working for nine months after the erection of the plant had been completed. This agreement took nearly two years to negotiate. The two new pumping sets were tested in November 1930 and taken over by the Municipal Board that same month. In conjunction with these new pumps an additional rising main to the settling tanks was laid and this together with the two original mains now discharges into a gauging chamber fitted with a rectangular weir and a Paterson "fluxograph" recorder for gauging the water as it enters the settling tanks. Accurate record of all raw water pumped can now be continuously maintained.

In addition to the new pumping plant a Paterson rapid filtration plant of one million gallons capacity per 24 hours was completed in February 1930, but this could not be brought into use before March 1931, because the Municipal Board did not acquire the easement to lay the necessary sludge drain.

Drainage, Rs. 8.00 lakhs.—The Medical Officer of Health recently reported that the sewage flowing along the river front is a nuisance and a grave danger to the health of those using the bathing ghats. It is necessary that something should be done to remedy this condition and meet fully justified complaints.

The comprehensive drainage project prepared in 1919 for Agra City has been shelved each time it has been brought forward for consideration on grounds of lack of funds and there is little hope of anything being effected to alleviate the deplorable state of affairs along the river front, and in the vicinity of the Fort.

Water Supply, Rs. 7.49 lakhs.—This new work comprises four tube wells each equipped with a vertical spindle centrifugal pumping set with a rising main and a masonry low zone service reservoir; near the Masjid, two horizontal electro-motor driven high zone pumping sets and a distribution system were brought into use as soon as the pumping plant was started up. After the official tests, the works were taken over by the Municipal Board on the 10th of November. The supply at present is only given to public standposts erected throughout the city. **ALIGARH.**

The boreholes were sunk in 1913 and lay idle until they were again tested in 1928. During this period marked deterioration had taken place in the wells and well no. (1) was found completely choked with sand and brick debris. The wells then showed a yield varying from 180 to 285 gallons per minute and the pumps were each specified to discharge 150 gallons per minute. Unfortunately since 1928 there has been practically no rainfall in Aligarh and the water level presumably owing to this, has fallen about seven feet; the yield from the boreholes has consequently been reduced to an average of 70 gallons per minute each. The pump suctions will have to be lengthened so that a reasonable depression head may be maintained and it is expected that the yield from the wells will be brought up to the designed capacity of the pumps. Since signs are not wanting that the present wells even with the increased yield will not suffice for long to meet the demand at Aligarh, steps are being taken to arrange for additional wells.

Electric energy is afforded by the Aligarh Electric Supply Company. A Lea recorder and gauging weir provides the means of measuring the discharge from the pumps and this gear has been erected at the low zone reservoir. The plant inclusive of workshop machine tools were supplied by the Harland Engineering Company and the whole of this work has been very satisfactorily carried out.

Drainage.—This town possesses a fairly efficient system of surface drains which are maintained in order by the municipal board. The public water supply will soon bring to light any defects in this system and if the town is to be fully supplied with water the time is not far distant when, in the interest of the public, a system of main intercepting sewers will have to be provided.

Water supply maintenance.—The new works comprised under the reorganization scheme, which include a Paterson rapid filtration plant, electro-motor driven centrifugal filtered water pumping sets and an elevated tank of 500,000 gallons capacity, all at Khusrubagh, as well as the two new intake wells and the three sets of vertical electro-motor driven centrifugal pumps at Karelalbagh (riverside) station, have functioned satisfactorily throughout the year. The old steam pumping sets remain as standby plant but these were not put under steam during the year. This steam plant at Karelalbagh, it is recommended, should be dismantled and sold. This work was completed in 1930 but the completion report submitted by the board was lacking in so many respects that it could not be accepted and had to be returned for proper compilation. **ALLAHABAD.**

Although the work of repairing the concrete floors and side walls of the two clear water reservoirs was commenced six years ago and substantial assistance given by Government, this has not yet been completed.

ALLAHABAD—
(contd.).

The board are preparing an application for a loan of Rs. 50,000 for the purchase of meters. At present only 370 meters are installed while there are 1,575 unmetered connexions of $\frac{1}{2}$ " diameter and upwards in existence.

The Mayo Hall Tube Well electro-motor driven centrifugal pumping sets were maintained in satisfactory running order but there was a marked decrease in the discharge from this well and it is feared that the tube has become choked with sand indicating a failure of the strainer. This well was constructed in 1915.

Water supply improvements, Rs. 0.41 lakhs.—This project consists of two tube wells for Civil Lines and forms part of the municipal reorganization scheme. The work was held in abeyance for a long time owing to the inability of the board to acquire sites for the tube wells and deposit the necessary funds. A loan from Government to the extent of the estimated cost has recently been approved and the preparation of specification and tender forms has been taken in hand, the board has been requested to deposit the necessary funds and expedite the acquisition of the sites for the tube wells. The wells will be of a new strainerless type designed to take advantage of the experience gained in tube well construction during the past fifteen years.

Alfred Park water supply, Rs. 0.40 lakhs.—This is a provincial work and the scheme consist of a tube well supply intended to replace the existing inadequate supply from the Jumna riverside pumping station. The project has been delayed by certain changes in staff in the second division.

Magh Mela water and electric supply 1930-31, Rs. 0.25 lakhs.—This work was undertaken on behalf of the Mela Authorities. The water and electric supply distribution were completed in time and a satisfactory supply of water and electricity afforded during the whole period of the Mela.

Drainage Pumping station.—Some little improvement was noticed in the maintenance of the pumping plant and screening gear but there is still a long list of spare parts to be obtained. Owing to the recording meter being out of adjustment and reading too high, impossible figures of efficiency on fuel consumption were being recorded. Electricity is now available from the Supply Company, the petrol driven generating sets for driving the screening and sludging gears, air exhausters, and for lighting should be maintained only as standby plant, for it will be found cheaper to use electric energy from the Supply Company than to use the petrol driven sets.

Drainage.—Some silting has been reported in the main sewers and is probably due to the disuse of the flushing tanks. The board have been advised to investigate this matter.

Complaints concerning Church Road and Lawrencegunj drains have also been received.

In the dispute over the Katra-Colonelganj drainage work between the contractors and the board which was subject to arbitration a loss of over Rs. 4,000 has had to be met.

Sewage farm.—The board derive a good revenue from their farm, but the bulk of the sewage still remains unutilized. The project for extending the farm taken up by the board some time ago has not materialized.

ALMORA.

Water supply improvement, Rs. 1.75 lakhs.—The supply from springs on the Siahi Devi mountain has been brought to the town and the distribution system is on the point of completion. This work comprises a gravity main, four inches in diameter which in places works under a head of 2,200 feet of water. This main delivers into a collecting reservoir at Kanker Wala Kothi from which the supply is distributed to the town. The board have been anything but helpful with regard to the carrying out of this work and much delay has thereby been occasioned.

BAHRAICH.

Water supply improvements, Rs. 3.75 lakhs.—This is a combined scheme to supply water to both the town of Bahraich and the Dargah Syed Salar during the fair period. The cost to be borne by the Bahraich board amounts to Rs. 3.15 lakhs and Government share for the Mela amounts to Rs. 0.60 lakhs.

It is proposed that the undertaking be managed by a joint board consisting of representatives of the Bahraich municipal board and the Syed Salar Fair Committee.

The projects were submitted to the Board of Public Health in November 1930 for sanction and allotment of funds, but some difficulty has arisen owing to want of funds and lack of unanimity in the respective authorities regarding joint management.

BAREILLY.

Anti-malarial works, Rs. 0.18 lakhs.—This work is required to complete the storm channel which will pass under the Railway embankments. Two-thirds of the cost amounting to Rs. 11,847 has already been provided by the Board of Public Health and tenders for the work will be invited as soon as the Railway contribution of Rs. 6,500 is received.

Slaughter houses and drainage improvement, Rs. 1.16 lakhs.—Preliminary proposals have been prepared and presented to the Bareilly board for acceptance and transmission to the Board of Public Health for sanction and for decision regarding assistance by way of funds.

BAREILLY
(contd.).

Water supply maintenance.—Under the reorganisation scheme, the new intake well at Bhadaini (riverside) pumping station and two electro-motor driven vertical spindle pumping sets, were brought into use in May and after the official tests in June, were taken over by the municipal board. This new plant has functioned satisfactorily and has enabled the high duty Worthington to receive a much needed overhauling. The old steam plant is now merely maintained as stand-by.

BENARES.

At Bhelupura, the filtered pumping station, the electro-motor driven centrifugal pumping plant worked satisfactorily throughout the year and has been maintained in good running order. The old steam pumping plant is being retained as stand-by. The tube wells were only brought into use to supplement the supply during time of festivals.

No. 10 slow sand filter being constructed by the municipal board is still incomplete although the original masonry work was finished in March 1929. The board's attention has been drawn to this inordinate delay.

The board disobey Government orders as regards their water works accounts, they credit the meter revenues only with the excess consumption measured and not the whole quantity supplied through the meters. This process obscures the wide difference between the recoveries on assessment and on metered supplies.

There are 1,099 connexions of $\frac{1}{2}$ " and upwards in diameter of which only 161 are metered. The board two years ago set aside Rs. 8,000 for meters but none were purchased. The revenue derived by assessment was 1.86 annas per thousand gallons but the rate by metering is 6.4 to 8.9 annas per thousand gallons. The manner in which this board neglects to control consumption of water will shortly result in demands for further expensive extensions. The supply hours have been increased by one-third and the consumption per head has increased by 12 per cent. due to this extended supply.

The works undertaken by the board through its own staff exhibit unsatisfactory features for instance the gauging basin at Bhadaini and the new slow sand filter bed.

Drainage.—Owing to financial difficulty no improvement in the drainage system of this city has been possible. Cracks in the old underground drains are appearing and are due to settlement. A considerable sum of money is likely to be required for their improvement. Neglect to connect up private foul water drains with sewers still continues. No adequate arrangement of storm water drain exists for the low lying areas which become flooded during heavy rains.

Water supply, Rs. 0.23 lakh.—The work consists of two instalments amounting to Rs. 6,400 and 16,797 respectively. The first instalment was completed and handed over to the Notified Area Committee in 1930. The second instalment was taken up in January 1931 and the major portion has been completed.

BHIMTAL.

This committee has been criticised for disposing of a stock of piping and fittings recovered from the work for an insignificant sum when the material was of value.

Water supply improvement.—The previous trial bores having failed to discover sweet water a fresh site for the third trial bore was selected as a last resource. A satisfactory water bearing strata has been found below 218 feet, and it is proposed to construct a 4" tube well. The estimate for this work has been sanctioned and arrangements are being made to complete the tube well.

BRINDABAN.

Drainage improvements, Rs. 3.00 lakhs.—The preparation of a fair project for Brindaban drainage has been postponed as the board requested Government to meet the total cost of the scheme by means of loans and grants. Owing to financial stringency, this was not possible, but it was agreed to apply to the Government of India for sanction to enhanced rates of pilgrims tax proposed by the board with a view to increase their resources in order to undertake this work.

Infectious Diseases Hospital, Rs. 0.45 lakh.—This project was prepared in the Superintending Engineer's office owing to pressure of work in the 1st Division. This project was sanctioned and the necessary funds allotted in March 1931. The work will be carried out by the Executive Engineer, 1st Division, who is preparing the specifications and contract documents with a view to taking up construction.

Drainage, Rs. 0.89 lakh.—This work consists of surface drainage in two instalments. The first instalment only was taken up but the tendered rates being favourable a substantial saving was arrived at. The board, therefore, decided to utilize these savings in improving places requiring urgent attention. This additional work has also been taken up and together with the first instalment is now nearing completion.

BUDAUN.

At the request of the board the preparation of a fair project for second instalment is in hand and will be ready shortly.

CAWNPORE.

Water supply maintenance.—Under the re-organization scheme, which the board have carried out through the agency of Messrs. Lane-Brown and Hewlett, Consulting Engineers, the works at Bhaironghat, the riverside pumping station, and at Benajhabar, the filtered pumping station, and the canal supply plant have now been completed. The last works comprising the two canal water supply sedimentation tanks and the venturi meter and gauging house for this supply were taken over in April. The old steam plant is now maintained as stand-by.

The board set aside Rs. 20,000 for the purchase of additional meters and spare parts. It is worthy of note that since 1922-23, when there was a deficit of Rs. 1·82 lakhs the board have made every effort to improve the finances of the water supply. The success with which these efforts have been rewarded is shown by a profit which has averaged Rs. 1·48 lakhs per annum during the last 7 years and amounted to Rs. 1·86 lakhs for the year 1930-31. There are 3,912 connexions of $\frac{1}{2}$ " and upwards in diameter of which 1,474 are metered—a far higher proportion of meters than any other municipality in these provinces.

Demonstration tube well.—A demonstration tube well together with the hand pump suitable for village supplies has been completed and set to work satisfactorily. This work is to be used to demonstrate to representatives of local authorities the utility of this type of well. The well is constructed in the compound of the Executive Engineer's workshop and is maintained by him.

Drainage.—Complaints have been received concerning the pollution of the Ganges by the outfall sewer and as long ago as 1920 a forecast of cost was presented to the municipal board for farming this sewage. The board are alive to the advantage of this course both as a means of meeting criticisms regarding the Ganges pollution and as a source of revenue. They deposited the necessary fees last year.

The Executive Engineer, Well Boring Operations Division, could not take up this project owing to shortage of staff and pressure of other important works, but it is now in hand and will be completed shortly.

The reorganization of the Parmat Bazar sewage pumping station in order to increase its capacity to meet the present requirements is also being designed by the Executive Engineer. Certain improvements have been carried out by the board themselves at this station enabling a greater volume of sewage to be dealt with, but further extensions are urgently required.

The board have, through their own staff and in co-operation with the Improvement Trust, made considerable extensions to their drainage system and though much urgent work still remains, Cawnpore is undoubtedly the best served city of the provinces as regards its drainage.

Agricultural College, Rs. 1·18 lakhs.—A project for the drainage, water supply and sewage disposal by the activated sludge process was prepared by the Executive Engineer, Borings, in the year 1928 and forwarded to the Director of Agriculture, United Provinces, for necessary action, but owing to the scarcity of funds the work is held in abeyance.

CHANDAUSI.

Water supply, Rs. 2·22 lakhs.—A forecast of cost amounting to Rs. 2·22 lakhs was prepared and sent to the municipality in November 1930, but on account of financial difficulty the board have decided to drop the scheme for the present.

**CHIRGAON
(JHANSI).**

Drainage, Rs. 0·13 lakh.—The work carried out satisfactorily leaving an unspent balance of Rs. 5,883 representing savings on the work. A further scheme for extending the work to utilize this unspent balance is under preparation.

DEHRA DUN.

Water supply maintenance.—The usual supply was maintained, but this frequently proved insufficient both in quantity and pressure.

Since no water-tax is levied there was a loss on these works of Rs. 9,668 for the year under review.

Water supply improvements, Rs. 0·65 lakh.—Two chlorinating appliances and one water softening plant were included in this work which was commenced in 1929 and completed in 1930. It was found after exhaustive tests that the guarantees, under the contract for the water softening plant were not fulfilled by a large margin. Payments have therefore been withheld and the contractors have been required to make good under the terms of the contract. The chlorinating appliances have proved satisfactory.

Improvements to Kolukhet-Rajpur-Dehra Dun, Pipe line, Rs. 0·17 lakh.—The existing 3" pipe line is now so heavily encrusted that the supply from the springs has been seriously diminished. An estimate has been prepared to replace the three inch pipe line with a four inch pipe line. This project has been presented to the municipal board for approval and provision of funds.

Infectious diseases hospital, Rs. 0.47 lakh.—The work has been financed half by Government grant and half by the board. The contract has been placed and work started. It is expected that it will be completed during the coming year. **DEHRA DUN—**
(contd.).

Water supply maintenance.—The borehole when first constructed and tested in 1925 was rated at 100 gallons per minute; there then followed a drought lasting for almost two years and the spring water level was reduced by about four feet and the yield from the well fell proportionately to 85 gallons per minute. The last monsoon rains were heavy and the water level has risen about six feet and at this level the rated capacity of the plant of 100 gallons per minute is more than maintained. **FATEHPUR SIKRI.**

The system functioned satisfactorily throughout the year and the plant was maintained in good order. The assessment of property has not yet been completed.

Water supply maintenance.—The pumping plant has been maintained in very good order but a progressive decrease in the yield from the four original well strainers has been noticed and the supply available now averages about 450 gallons per minute. **FYZABAD.**

There was a deficit of Rs. 5,151 in 1929-30, but there has been a profit each year since 1926-27, if 1929-30 is excepted. This year the profit amounts to Rs. 3,479.

There is a considerable unsatisfied demand at Fyzabad and the revenue should improve when the new plant is completed.

The board have been urged to take a loan for the purchase of meters so that proper control may be maintained over the distribution.

Water supply improvement, Rs. 0.50 lakh.—This scheme consists of a new fifth tube well of the strainerless type and a pumping plant to augment the supply from the four existing tube wells which are becoming inadequate for the growing demands. The boring was successfully completed in April 1930. Contracts for the pumping plant and building work have been placed and the work has been started.

The town supply will be increased by 300 gallons per minute when this work is completed.

Electric supply.—During the year under report the board has not been able to come to any arrangement with a private company for a public electric supply.

Ajodhya water supply improvement, Rs. 4.27 lakhs.—For this important pilgrim centre a detailed project for water supply was sanctioned and a successful tube well of the new type was constructed. The gravel feed chamber with the collecting tank was completed and handed over to the municipal board during the year. Funds for the second tube well have now been received and the work will be taken up as soon as the site for this well is acquired by the municipal board.

Ajodhya drainage improvements, Rs. 4.60 lakhs.—A detailed project consisting of three instalments was submitted to the municipal board for acceptance in April 1928, and was also sanctioned by the Board of Public Health in January 1929. The board approached Government for financial assistance with a view to taking up the first instalment but funds were not available and the scheme has been shelved for the present.

Water supply, Rs. 4.17 lakhs.—The municipal board have decided to proceed with a trial boring to test the supply available. The project is in hand. **GHAZIPUR**

Drainage, Rs. 0.60 lakh.—A project was prepared by this department and sanctioned by the Board of Public Health in the year 1929, but owing to public opposition to the discharge of foul water in the river, a course which is unavoidable with an open drainage system and which indeed takes place in present circumstances, the construction has been postponed indefinitely. **GOKUL.**

Water supply, Rs. 1.37 lakhs.—A forecast of cost amounting to Rs. 1.37 lakhs has been provided to the municipal board for their consideration. **GONDA.**

Water supply, Rs. 3.27 lakhs.—This scheme has been dropped owing to want of funds. **GORAKHPUR.**

Drainage improvements, Rs. 3.44 lakhs.—A modified scheme, the estimate of which amounts to Rs. 3.44 lakhs, has been prepared and presented to the municipal board for sanction and transmission to the Board of Public Health with proposals for financing it.

Water supply maintenance.—The pumping plant has been maintained in running order but a large number of spare parts are required. The supplementary supply has been arranged for filling the bathing tank from the adjacent canal, thus relieving the pumping station for the piped supply of water for domestic purposes only. **GOLAGOKA-RANNATH.**

HARDWAR.

Water supply maintenance.—These works were maintained in good order and the pumping plant functioned satisfactorily. The supply from well no. 3 has fallen under suspicion from bacteriological tests and until the source of contamination has been traced out and dealt with the remaining two wells are being used exclusively for the public supply.

The revenue including Government grant of Rs. 30,000 amounted to Rs. 58,408 whilst the annual costs totalled Rs. 38,436.

Electric supply maintenance.—This supply which is derived from the Bahadurabad hydro-electric station was satisfactorily maintained and no complaints have been recorded. The revenue amounted to Rs. 75,052 whilst the annual costs totalled Rs. 72,969.

Drainage improvements, Rs. 8.14 lakhs.—This project was undertaken with a view to improving the defective drainage of the town, before the next Kumbh Mela which falls in 1933. All arrangements were made to proceed with the first instalment of the work, but at the beginning of the year the Hindu Mahasabha raised objections to the drainage being discharged into the river without treatment and demanded that a sewage farm be provided. This involved appreciable additional expense and Government were not able to accede to the request; in such manner this very urgent sanitary measure has been again indefinitely postponed.

Town improvement.—The preliminary proposals for widening the approaches to the Har-ki-Pairi amounting to Rs. 14.73 lakhs were approved in March 1930 and the municipal board requested a detailed project for only the first instalment costing Rs. 5.9 lakhs. The necessary survey has been completed and the project is well in hand now.

In addition to this a forecast of cost for the town planning of Bhopatwala amounting to Rs. 9.00 lakhs was prepared and the Assistant Director of Public Health was consulted. This project will be completed as soon as the staff is available from other works.

Preliminary proposals, amounting to Rs. 1.12 lakhs for training the Lalta Rao and providing a single span reinforced concrete bridge, have also been prepared and presented to the municipal board before taking up the detailed project.

Jwalapur water supply, Rs. 1.77 lakhs.—A revised project for this work was sanctioned in 1929-30. Specification and tender forms for the first instalment amounting to Rs. 1.19 lakhs were drawn out and printed. Tenders could not be invited as the full funds were not deposited. The board recently forwarded a resolution to the effect that the cost of the scheme was prohibitive and unless it was considerably reduced it was not possible for the board to take up the work. On further scrutiny it was found that no further reduction in the cost of the scheme was possible and the board was informed.

HATHRAS.

Water supply, Rs. 5.32 lakhs.—Two tube wells were completed last year and three more are under construction by contract. The contracting firm has come under penalty for delay in this work which should have been completed in July. It will be necessary to subject all the wells to exhaustive test before proceeding with work on the pumping plant and distribution.

JHANSI.

Water supply maintenance.—For the first occasion in ten years it is possible to record that the municipal board have taken effective interest in their pumping plant. Spare parts have been purchased and the suction pipes leading through the bund at Pahuj reservoir have been partially renewed. The improvement in the working of the engines and pumps is marked and their present condition is much better than they have been for a term of years. Under pressure of complaints arising from water scarcity Rs. 1,490 were spent on more distribution tanks and in longer periods of pumping.

The board can effect economies by insisting on better coal being provided for the price which they pay at present and they could increase the income by installing a greater number of meters as there are only ten in use at present.

Babina water supply scheme, Rs. 36.88 lakhs.—This project work which was taken over by the Railway authorities has now been completed and sent for the consideration of Government. The supply will be a joint concern for the three authorities, namely, the municipal board, the Railway and the Military department.

The Chief Engineer, Sarda Canal, Sir Bernard Darley, has kindly agreed to advise on points concerning the dam for the impounding reservoir and when his advice has been received, the project will be submitted for orders of Government.

Drainage, Rs. 0.22 lakh.—The Municipal Board have requested that a comprehensive scheme for the drainage of the municipality be drawn up on their behalf. This project has been delayed owing to other important works.

JAUNPUR.

Water supply, Rs. 6.00 lakhs.—The preparation of a fair project for a water supply from the river Gumti has been delayed for want of staff. Forecasts of cost of

the alternative schemes indicate that if land inside the fort known as "Karar Bir" be made available for constructing filtration plant and a storage reservoir the cost of this scheme can be very much reduced. The sanction of the Archaeological department for the utilization of a portion of the land inside the fort is being sought.

JAUNPUR—
(contd.).

Water supply, Rs. 3.27 lakhs.—The yield from the first trial bore at depths of 292 feet and 323 feet having proved unsatisfactory a fresh bore was sunk and water found at a depth of 160 feet, but this on analysis proved to be very hard, and as the quantity of water available was also limited, it has been decided to abandon the well and to leave the question of an alternative source of supply, over, until the finances of the Municipal Board are in a more satisfactory condition.

KHURJA.

Electric supply, Rs. 1.86 lakhs.—This work consisting of a complete distribution system with three sub-stations, was commenced in June, 1929, and completed in the following year and handed over to the Municipal Board in October, 1930. The supply is functioning satisfactorily and derives its bulk energy from the canal hydro-electric grid.

Water supply maintenance.—The pumping plant received fair attention and remained in good running order. A cylinder lining had to be replaced after eighteen months' running and this short service is probably due to unsuitable fuel oil purchased locally.

KOSI KALAN.

The yield from the well was maintained throughout the year.

Although a public stand-post supply only was intended under this scheme a limited number of metered private connexions for house and trade supplies are being discussed. A profit of about three thousand rupees has been derived from this supply during the year.

Drainage, Rs. 0.62 lakh.—A forecast of cost for this work amounting to Rs. 0.62 lakh has been prepared and presented to the Kosi Notified Area Committee for consideration. The scheme allows for leading the foul water from the two main drains to sumps where it would be lifted by means of bullocks and distributed over a sewage farm.

Water supply maintenance.—Further events during the year have left no doubt that an unprecedented crisis in the Lucknow water supply has been averted by making over the generating station to the United Provinces Electric Supply Company.

LUCKNOW.

The pumping stations at Gaughat and Aishbagh caused no complaints during the year subsequent to this transfer, and the plant was maintained in fair order.

In spite of warnings and exhortations, extending over the last five years, no proper effort was made to reinstate the slow sand filters with the consequence that the filters broke down in August and could not be put to use until the end of the following September. The public received only a restricted supply during this period of about one month. As a consequence of this breakdown, work was rushed through in reconditioning the filters and carrying out other long neglected repairs such as the cleaning of the inlet channels and settling tanks, and these activities resulted in more work being done during three months than had been done in the previous three years.

The new Paterson rapid filtration plant, capacity three million gallons per 24 hours, was set to work in May and after satisfactory tests was handed over to the board in August. The original Paterson rapid filtration plant which has for years been worked at a capacity much above that for which it was designed, urgently requires to be overhauled.

No serious attempt has been made to increase the number of meters or to control the waste taking place, which has reached large dimensions. Out of the 2,181 connexions of half-an-inch size and upwards, less than one-quarter are provided with meters. The board still do not realise the necessity for employing a qualified and experienced water works superintendent. They reduced the salary of this post from Rs. 600 to Rs. 400 per mensem though the system entails maintenance charges of Rs. 4.34 lakhs per annum and earns a revenue of Rs. 5.40 lakhs per annum and requires first class attention.

Water supply improvement, Rs. 15.65 lakhs.—Both the new main to the cantonments (Rs. 1.26 lakhs) and the new mechanical filtration plant, were completed during the year and handed over. Other items now to be taken up include an elevated reservoir, clear water reservoir and certain urgent portions of the distribution. The board have put in hand work on the distribution and about Rs. 60,000 have already been spent. About Rs. 40,000 worth of work is still in hand by the board's own staff. The board have been warned that the mere laying of pipes is not likely to prove of any permanent benefit in the matter of water supply unless the large number of wasting connexions are subjected to rigorous control and many more meters are applied. The board have applied for a loan of Rs. 5.25 lakhs to cover their programme of new construction.

LUCKNOW—
(contd.).

Overflow jail water supply, Rs. 0·50 lakh.—This work was of an emergency nature and both the project work and construction were undertaken by the Executive Engineer, II division. The work was successfully completed in a period of six weeks.

Anti-malaria and drainage work, Ghazi-ud-din Hyder canal, Rs. 0·14 lakh.—These works were satisfactorily maintained by the II division. The earthen banks outside the masonry lining have become consolidated and grassed and it is hoped that the cost of maintaining the channel will be reduced in future years. The amount of the estimate for maintenance has been reduced from Rs. 14,000 to Rs. 10,000. The improvement which the foul water sewer and the masonry lining has effected in the sanitary condition has been marked.

Extensions to the Ghazi-ud-din Hyder canal lining and intercepting sewer, Rs. 2 lakhs.—A forecast of cost amounting to Rs. 2 lakhs to extend the canal lining to the intercepting sewer up-stream in the vicinity of the industrial area was prepared, but owing to the paucity of funds the detailed project could not be proceeded with.

Drainage.—Owing to numerous complaints regarding the unsatisfactory condition of the Gumti banks caused by failures on western and eastern intercepting sewers, the municipal board requested that a survey of the whole drainage system be carried out by this department with a view to obtaining an estimate for reinstating the work and putting the sewers into good working condition again.

The forecast which has been prepared shows that a sum of Rs 2·73 lakhs would be required for reinstating the damaged work and that a sum of Rs. 25,000 per annum would be required to maintain the main sewers in proper order including the pumping station. The matter has been reported to Government.

Sewage pumping station.—This station is being neglected; the sludging gear has been out of operation for two years owing to the failure to order the necessary parts for renewing the driving and lifting chains and repair of the buckets. The centrifugal pumps have also fallen into a bad state of repairs.

Sewage farm.—Of the total acreage of 685 only 178 acres are at present farmed and the return from this farm averages Rs. 37 per acre to the board. This farm was leased for a term of five years and it is understood that several of the leases were relet to cultivators. The board have been advised to let the farm for periods of one year only and in order that the board may derive full benefit, to deal with the cultivators direct. They have also been advised to auction the land in plots not exceeding one acre in extent.

MEERUT.

Water supply maintenance.—The filters and the pumping plant at Bhola have been maintained by the Superintendent in good working order in spite of many difficulties.

The board have taken no steps to improve the pressure in the Civil Lines and other outlying areas although many complaints have been made. Many of the bungalow connexions and public standposts yield no supply for weeks together and the distress is great in the vicinity of the Law Courts and the College. There are 509 service connexions of one-half inch size and over, of which only 38 are metered. The board have set aside a sum of Rs. 1,000 for the purchase of meters, a sum which is totally inadequate. If a proper water tax was levied and all property assessed at reasonable amounts there should be a profit on this water works of at least Rs. 20,000 per annum. As matters stood till last year there had been a loss of Rs. 9,500 annually, and it resulted in the board starving the system of necessary repairs grant. This year the revenue hardly covers the expenses.

Electric supply.—Under orders of Government the electric supply scheme of this town was entrusted to the Irrigation branch, Public Works department, owing to its location within the grid area of Hydro-Electric Supply from the canals. The electric supply has been completed.

MIRZAPUR.

Water supply maintenance.—There is a dismal record attached to this supply and it is fortunate that the system is a gravity supply requiring the minimum of attention as regards earthworks and masonry. The cost of water delivered is the lowest recorded in these provinces, yet there was a loss of Rs. 1,140 during the year. This is caused by the board levying no water tax and maintaining only 80 meters out of a total number of about 2,684 private connexions. There were 108 public standposts provided in the original work but the board by numerous additions have increased these to 238. When these works were inaugurated in 1914 between eight and nine hundred meters were installed. The board contribute nothing for the quantities of water used for municipal purposes and it has taken them seven years to effect repairs to the bulk meter. The records of available supply and demand are incomplete and should several dry seasons ensue so that the impounding reservoir is depleted there will be a woeful tale of distress.

MOGALSARAI.

Drainage, Rs. 0·42 lakh.—The project has been sanctioned by the Board of Public Health who have also recommended that the scheme be financed by a

Government grant of Rs. 25,000 and a loan of Rs. 13,000 provided that the notified area committee agree to meet the balance from their own resources. As soon as funds are assured, tenders will be invited and the work taken in hand.

Water supply and drain flushing maintenance.—This supply has been shut down since April, 1920, when owing to a fractured crankshaft the oil engine was wrecked. Since then the board have been discussing the replacement of the engine. The sanitation of the town has relapsed into a dreadful state in the meantime.

MORADABAD.

Water supply improvements, Rs. 0.12 lakh.—This work allowed for the extension of certain pipe lines and the provision of fifteen public standposts. The work was commenced in February, 1929, but was delayed through action of the board. It was however resumed and handed over complete in April, 1930, but no benefit has been derived from it owing to the pumping plant being wrecked.

Water supply maintenance.—The pumping plant was maintained in good running order at the four pumping stations. The distribution was generally well maintained and an adequate supply was provided at all levels in Mussoorie.

MUSSOORIE.

The new pumping station, for the Landaur area, gave every satisfaction and the board derived a full return on the capital expenditure.

All the spare parts recommended by the Mechanical Adviser have been procured, though no major repairs were required at any pumping station during the year.

It is reported that difficulty takes place in meeting the demand specially in Landour Cantonments owing to the large quantities of water required for road watering. The Board's Electrical Engineer suggests that economy could be effected, in the use of water, if the Mall Road surface was treated by spraying with a suitable tar compound, or if it was concreted, and this proposal is well worth careful investigation.

If the total cost of the water supply is taken into consideration, there is a small annual loss to the board, this is due to the low credit from the value of water supplied, namely, annas 12 per thousand gallons. This credit should be adjusted annually to the actual cost of the water pumped, so that the returns of the electricity and water supplies may be susceptible of fair comparison.

Hydro-Electric supply.—The trouble experienced at the headworks of the Galogi power station, from the arrival of large quantities of debris from the motor road construction, in the catchment area above the pipe line intakes, has so far been successfully met.

Proposals are in hand for constructing a new sedimentation tank above the original headworks.

No trouble was experienced on the transmission or distribution lines and the sub-station gave satisfactory service.

A triplicate power pipe line supplementing the two existing power pipe lines is also being considered; this will enable a much greater output to be derived from the Galogi hydro-electric station and will postpone the day when the Diesel generating station at Kallugarh has to be continuously operated. Recourse has had to be taken to running the station more frequently and for longer periods as the demand increases.

The Electrical Engineer reports that during the year he had carried out many tests on meters and that of the total number of 735 meters in Mussoorie in commission, 117 were found to run fast and 136 slow. The maximum acceleration was measured to be as much as 54 per cent. and the maximum retardation 32 per cent. These figures prove indisputably the necessity for greater attention being paid to the meter department establishment and equipment. The Dehra Dun figures so far as they are available confirm the above results.

The numbers of defective private installations which have been recorded are high and the board would do well to pay greater attention by insisting on private consumers maintaining their installations in efficient order. This matter affects the revenue and the reliability of supply in no small degree.

Judging from the state of the buildings at Bhelaru and at Galogi, these civil works require greater attention in their maintenance. The roof of the transformer room at the last mentioned station is leaking and in an attempt to prevent damage from leaks, the loose sheeting laid with stones as a temporary measure, was blown across the high tension feeder line and on one occasion caused a shut down of the supply.

The steadily increasing use of the Diesel station at Kallugarh will necessitate more extensive maintenance work on the engine parts and the existing workshop equipment is insufficient for this purpose. The board would do well to anticipate the greater demands for repairs by arranging for the necessary extensions during the coming year.

MUSSOORIE—
(contd.).

It is calculated that the hydro-electric supply undertaking returns a profit of 6·4 per cent. to the board on capital involved.

Drainage.—No complaints have been received concerning the drainage systems installed at Landaur bazaar and the Happy Valley which have functioned satisfactorily. The board have not taken any steps to compel the house-owners in the Happy Valley area to connect up to the sewer, though in the Landaur area some private connexions have been made.

The sewage farm has also been operated successfully and a revenue of Rs. 500 was realized during the year. The value of this farm might be greatly increased if some means could be discovered of diverting the surplus water from the Bhilaru springs on to the land.

The Kulri bazar drainage system which was constructed many years ago has exhibited some defects due to the small sizes of the pipes used and the absence of proper sealed trap connexions.

MUTTRA.

Water supply maintenance.—Since energy is now derived from the Electric Supply Company the Diesel sets are kept in running order for standby purposes only. One per cent. of the total pumping work was effected by set no. 1.

Since the reconstructed well no. 1 has been linked up the former supply of 725 gallons per minute has now been increased to 925 gallons per minute. Besides adding a much needed supply this well has resulted in greater efficiency in pumping as the sets now run closer to their rated capacity.

Some agitation and refusal to pay water rates has taken place in the Sadar bazar area but since the supply was extended and the demands met; rates are now being paid.

The board still do not make sufficient efforts to render the water supply self-supporting, they make no provision for spare parts and repairs of water meters.

The board's orders having been set aside by Government the water works superintendent returned to duty, but on the board again determining to harass him he resigned his post. A new water works superintendent has not been appointed even after a lapse of ten months.

Water supply improvements, Rs. 0·82 lakh.—Both tube wells have been completed. The first is now working satisfactorily as recorded above and the second, a new well no. 5, has been satisfactorily tested. Tenders will be invited shortly for the pumping plant.

Drainage.—The system functioned satisfactorily and the pail dépôts and latrines were in regular use. A shortage of water rendered the working of the latter difficult at times.

Sewage farm, Rs. 0·08 lakh.—The sewage farm was brought into use in May, 1929, and it was agreed that for the first three years it should be run under the supervision of the Executive Engineer, I division, Public Health department. This is the third year of the trial maintenance and the results have been satisfactory. The area has been extended from 29 to 55 acres. The income in the first year amounted to Rs. 12 per acre in the second year to Rs. 75 per acre, and this year the income further increased to Rs. 104 per acre.

Valuable information has been obtained with regard to land treatment of sewage and this will be available in the form of a report when the period of maintenance expires and the farm is handed over to the board.

Sewage pumping station.—The new electro-motor centrifugal pumping sets functioned satisfactorily, but the oil driven set was not maintained in good working order though not frequently used.

MUZAFFARNAGAR.

New Mandi drainage, Rs. 4·63 lakhs.—The project was sanctioned in 1927 but the work was not started until 1929 owing to delay in providing funds. The new Mandi area was originally opened up by the Merchants' Association but later was included in the municipality of Muzaffarnagar. Some friction took place between the local authorities and many obstacles have operated to delay the work. The bulk of the work however has already been completed and handed over to the board. The entire work will shortly be handed over to the board after the flushing arrangements are completed.

NAINI TAL.

Water supply.—There is a tendency for the demand to increase at Naini Tal but nothing approaching the marked manner observed in the majority of plains stations. This is due to the wholesale system of metering employed. The electro-motor driven pumping plant as well as the lake side pumping plant and the chlorinating apparatus were maintained in working order.

Except for fire hydrants and some few new connexions, no large extensions of the supply took place or were projected.

Hydro-electric supply.—As far as is known this supply gave satisfaction throughout the year and periodic records of the lake and consumption of water for power purposes were received in this office. A proposal for extending the supply to Haldwani is under consideration.

NAINI TAL—
(continued).

Drainage.—The board has not proceeded with the re-laying of the main intercepting and outfall sewer, but have managed to repair this with a view to postponing the spending of further capital. No reports have been received concerning the sewage farm for the treatment tanks.

Mela water supply, Rs. 0.40 lakh.—A tube well of the strainerless type was successfully completed and handed over to the Sajjada Nashin of Piran Kaliar in October, 1929. The distribution piping that has been completed but the contract for the building could not be let as the type of pumping plant had to be settled and the electric supply rates agreed upon by the Irrigation Branch who will undertake the maintenance of the plant. It has been arranged that the Irrigation department will take over the plant and use the tube well water for irrigation purposes and be responsible for the repair of the plant and its maintenance during the Mela period.

PIRAN
KALIAR.

Contracts for the building of the pumping plant have now been placed and the work started. It is hoped to complete it during the present financial year.

Water supply, Rs. 4.00 lakhs.—Since the board's financial position has been examined, it was found possible to take up the first instalment costing Rs. 2.25 lakhs, and if a grant of Rs. 1.00 lakh, and a loan of Rs. 0.75 lakh could be found in addition to the Rs. 0.50 lakh to be met from the resources of the board. There is however no hope of the grant being available till 1932 at the earliest.

RAE BARELI.

Drainage improvements, Rs. 1.48 lakhs.—This work has been held in abeyance owing to financial difficulties.

Infectious diseases hospital, Rs. 0.35 lakh.—The estimate was sanctioned in October 1930 the contract for the construction has been placed and the work is in full swing. It is hoped that it will be completed before the close of the financial year 1931-32.

RIKHIKESH.

Drainage improvement, Rs. 13.23 lakhs.—The original project for this work amounting to Rs. 13.23 lakhs was prepared in the year 1922, but as it was beyond the capacity of the municipal board to finance the scheme it was decided to carry out the work piece-meal. So a revised scheme for the first instalment only amounting to Rs. 2.05 lakhs was prepared and presented to the municipal board last year. The project was also administratively sanctioned by the Board of Public Health and it was proposed that the cost of this scheme would be met as below :—

SAHARANPUR.

						Rs.
Government grant	..	..	..	..	..	75,000
Loan	..	..	..	..	..	75,000
Funds of the municipal board	..	..	..	..	..	55,165
Total						2,05,165

Since no grant is available this financial year, the Executive Engineer, I division, has been instructed to postpone the preparation of the specifications and tender forms.

Drainage improvements, Rs. 2.50 lakhs.—The scheme has been divided into three instalments to be constructed as funds permit and the forecast of cost of the first instalment amounting to Rs. 0.38 lakh was prepared and presented to the board in April 1930 for consideration. Since then nothing has been heard from this board.

SIKANDRA-
BAD
(district Buland-
shahr).

Water supply maintenance.—This supply was maintained in good order and the pumping plant was adequate for the demand during the greater part of the year, though in the hot weather it was pressed to its full capacity.

UNAO.

The board have obtained a loan of Rs. 10,000 for the purchase of meters and are preparing proposals for utilizing this sum.

Water supply improvements, Rs. 0.31 lakh.—This work consists of one tube well and a duplicate pumping set enable the hours of supply to be extended. The tube well is in hand and the contract for the additional pumping set has been let. It is hoped to complete and set to work this addition within the present year.

Drainage, Rs. 1.89 lakhs.—Funds have only recently been made available for this work which was sanctioned during the year under review. Contract will be let shortly for the work.

In addition to the works noted above the following miscellaneous works were also undertaken.

Other miscellaneous works.

		Rs.	
1	Agra water supply to Police Lines ..	0·13 lakh	Forecast submitted.
2	Aligarh drainage of water works compound.	0·07 „	Fair project submitted.
3	Allahabad District Jail filling of depressions.	0·11 „	Construction completed.
4	Bilsi (Budaun) drainage	0·54 „	Forecast submitted.
5	Debi Patan (Gonda) water supply tube well.	0·07 „	Construction completed.
6	Haldwani (Naini Tal) water supply improvements.	0·06 „	Construction completed.
7	Hardwar, laboratory for infectious diseases hospital.	0·11 „	Forecast submitted.
8	Kaimganj (Farrukhabad) drainage improvements.	0·06 „	Construction in hand.
9	Muttra Banjatra route water supply ..	0·25 „	Ditto.
10	Sukhumbhar Debi fair (Saharanpur) water supply improvements.	0·21 „	Forecast submitted.

STAFF

Mr. G. McC. Hoey, Superintending Engineer, proceeded on six months and fifteen days combined leave on April 17, 1930 and Mr. F. D. Tunncliffe took over charge during his absence. Mr. Hoey's return to duty was delayed till March 16, 1931, owing to his being lent for eight months to the Colonial Office on foreign service in an advisory capacity to the Government of Nigeria.

The administrative charge of the Agricultural Engineering section which Mr. Hoey held for about twenty months was made over to the Director of Agriculture before he proceeded on leave.

The Secretary of State in Council having sanctioned the deputation of an Indian Assistant Engineer of this department for training in England for one year in public health works, Mr. H. G. Trivedi, Personal Assistant to Superintending Engineer, Public Health department, was selected for this purpose. He proceeded to England on being relieved by Mr. J. K. Singh, who acted as Personal Assistant to the Superintending Engineer, from May 12, 1930.

Mr. F. J. Mallett held the post of Water Works Engineer and Mechanical Adviser to Government throughout the year and Mr. N. R. Gupta who took over charge from Mr. J. K. Singh acted as Assistant to the Water Works Engineer and Mechanical Adviser.

Mr. W. Saise continued as Executive Engineer, I division, Public Health department, Meerut, and Mr. N. D. Choudhary as Executive Engineer, Well Boring Operations division, Public Health department, Cawnpore, throughout the year.

Mr. S. B. Mathur, now permanent Executive Engineer remained attached to the I division, Meerut, Mr. G. K. Pillai, another permanent specialist officer of this department who was lent to the municipal board, Allahabad, as Reorganisation Engineer, was relieved by the Board on March 1, 1930 and was therefore attached to the second division, Allahabad, till April 13, 1930, when he took over charge of this division from Mr. F. D. Tunncliffe who came to Lucknow to officiate as Superintending Engineer.

In addition to the six permanent Assistant Engineers of the Public Health Engineering Service, six temporary Engineers, nine subordinates of the Subordinate Engineering Service and eighteen temporary subordinates, the requisite number of the computers, draftsmen and clerks were employed.

The officiating Superintending Engineer inspected all important water works as well as works under construction and the Mechanical Adviser to Government recorded his periodical inspection reports of all open water works and rendered assistance in preparing specifications, advising on tenders and testing of plant.

The Superintending Engineer throughout the year served on the Board of Public Health and also on the Board of Engineers nominated by Government to advise the Kashi Sudhar Trust in regard to the restoration of the Benares ghats. Superintending Engineer and Mechanical Adviser also acted as Government nominees on the Senate, Benares University.

G. McC. HOEY, M. INST. C. E.,

Superintending Engineer, Public Health department, United Provinces.

APPENDICES.

Statement of operations of various water works in the

Item num-ber.	Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.	Mussoorie.	Naini Tal.
	<i>Population.</i>								
1	By census of 1921 in municipality.	163,902	145,653	195,373	195,085	217,167	77,711	12,943	16,517
2	By census of 1921 in cantonments.	22,044	11,567	3,074	21,351	23,399	44,898	2,346	802
3	Inhabitants drawing their supply from mains.	185,946	157,220	198,447	216,436	210,000	77,711	15,289	17,319
	<i>Consumption of water.</i>								
4	Metered supplies—								
	(a) Cantonments, million gallons.	159·751	91·404	1·124	9·976	108·710	Nil	5·089	1·893
	(b) Trade, million gallons ..	75·338	27·395	1·804	314·899	196·296	30·402	Nil	0·185
	(c) Domestic (bungalows, etc.) million gallons.	93·075	28·767	30·892	427·868	133·875	1·047	43·292	16·324
	(d) Buildings, million gallons	2·045	6·914	16·972	35·535	10·161	1·405	Nil	0·264
	Total metered supplies, million gallons.	330·209	154·480	50·793	788·278	449·042	32·854	48·381	18·666
5	Unmetered supplies—								
	(a) Domestic (assessment or ferrule), million gallons	1,293·811	1,123·493	1,943·940	1,710·553	830·000	217·457	9·994	15·423
	(b) Municipal purposes (road watering, irrigation and flushing, etc.), million gallons.	175·950	443·279	191·190	302·130	520·000	3·563	13·325	11·541
	(c) Standposts, million gallons	243·289	481·497	485·985	214·339	816·976	199·728	39·976	22·867
	(d) Buildings, million gallons	2·461	13·647	4·752	6·000	12·406	Nil	3·331	0·163
	Total unmetered supplies, million gallons.	1,715·511	2,061·916	2,625·867	2,233·022	2,179·382	420·748	66·626	49·994
6	Total quantity supplied during the year (items 4 and 5), million gallons.	2,045·720	(a)2,216·396	2,676·660	3,021·300	2,628·424	453·602	(b)115·007	(c)68·660
7	Daily average supply, million gallons.	5·605	6·072	7·333	8·278	7·201	1·243	0·315	0·188
8	Maximum daily average in any one month, million gallons.	6·943	7·325	7·731	9·626	8·484	1·400	0·408	0·285
9	Consumption per head per day for trade alone, gallons.	1·11	0·48	0·02	3·98	2·56	1·07	Nil	0·03
10	Consumption per head per day for municipal purposes and buildings, gallons.	2·66	8·08	2·94	4·35	7·08	0·18	2·99	1·89
11	Consumption per head per day for domestic purposes, gallons.	26·37	30·06	33·99	29·91	24·65	14·74	17·62	8·94
12	Total consumption per head per day (items 9, 10 and 11), gallons.	30·14	38·62	36·95	38·24	34·29	15·99	20·61	10·86
13	Hours of daily supply ..	10·00	15·50	8·55	16·00	22·00	16·00	24·00	13·23
14	Total hours of pumping during the year.	9,594·00	13,891·25	7,534·65	14,162·00	11,158·52	6,453·75	13,681·75	4,829·92
	<i>Lift of pumps.</i>								
15	From river to settling tanks, feet	46·78	127·69	87·71	48·07	97·57	15·16	Murray 1,311·50	H.Z.1,148·60
16	From filtered water pumps to town distribution, feet.	142·00	100·35	88·60	92·73	57·37	126·53	Mackinon 639·00 Bhilaru 1,385·68	I.Z.451·60 L.Z.252·60
17	Total lift, feet	188·78	228·04	176·31	140·80	154·94	141·74	Average 1,304·05	Average 460·01
18	Total horse power hours during the year in million. <i>Supply connexions.</i>	1·47	1·12	1·20	1·41	0·76	0·29	0·76	0·16
	<i>Unmetered.</i>								
19	Number of connexions made during 1930-31.	161	239	731	585	834	88	Nil	2
20	Total number of connexions ..	5,086	6,364	14,872	9,608	10,425	1,965	16	7

(a) Includes Mayo Hall pumping 51·189 million gallons.

(b) Includes gravity supply 4·730 million gallons.

(c) Do. do. 15·241 do.

DIX No. I.

United Provinces for the year 1930-31.

Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.	Kosi.	Fatehpur Sikri.	*Aligarh.	Remarks.
34,092	54,385	54,994	42,615	51,342	9,024	11,147	6,753	5,175	66,963	
Nil	12,069	Nil	10,235	5,278	Nil	Nil	Nil	Nil	Nil	
34,092	25,000	38,400	42,615	30,000	9,024	9,000	6,753	4,400	60,948	
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	
0.206 7.344	0.896 2.392	9.744 1.124	0.652 0.787	Nil 9.743	0.434 1.080	Nil 1.037	0.410 0.063	Nil Nil	Nil Nil	
Nil	Nil	Nil	0.067	0.842	1.534	Nil	Nil	Nil	Nil	
7.550	3.288	10.868	1.506	10.585	3.048	1.037	0.473	Nil	Nil	
102.450	2.186	174.630	107.530	75.260	34.433	54.343	Nil	Nil	Nil	
	26.274	51.659	22.417	22.728	19.387		Nil	Nil	Nil	
	26.930	110.376	111.296	45.456	29.567		14.729	10.713	16.320	
	Nil	2.400	2.598	7.076	0.151		0.026	Nil	Nil	
102.450	55.390	339.065	243.841	150.520	83.538	54.343	14.755	10.713	16.320	
110.000	58.678	349.933	245.347	161.105	86.586	55.380	15.228	10.713	16.320	
0.301	0.161	0.959	0.672	0.441	0.237	0.152	0.042	0.029	0.116	
0.435	0.223	1.036	0.785	0.438	0.391	0.190	0.046	0.041	0.128	
0.02	0.10	0.70	0.04	Nil	0.13	Nil	0.17	Nil	Nil	
8.82	2.88	3.86	1.61	2.80	6.40	16.86	0.01	Nil	Nil	
	3.45	20.41	14.12	11.91	19.76		6.00	6.67	1.90	
8.84	6.43	24.97	15.77	14.71	26.29	16.86	6.18	6.67	1.90	
24.00	9.00	22.00	6.75	8.75	18.00	9.00	10.00	8.00	6.00	
Nil	3,291.50	Nil	4,771.25	6,535.75	8,251.50	4,615.00	1,984.00	1,681.33	2,138.00	
Gravity supply.	-11.48	Gravity supply.	174.10	12.05	175.53	130.00	111.18	202.72	135.00	
	235.00			128.51						
..	223.52	..	174.10	140.56	175.53	130.00	111.18	202.72	135.00	
Nil	0.07	Nil	0.22	0.11	0.08	0.04	0.01	0.01	0.01	
1	10	89	79	145	6	Nil	2	Nil	Nil	
2	81	2,604	1,787	1,138	185	161	2	Nil	Nil	

* Records maintained from 11th November, 1930.

APPENDIX

Statement of operations of various water works

Item number.	Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.	Mussoorie.	Naini Tal.
	Metered—								
21	Number of house connexions made during 1930-31.	2	39	11	229	28	3	17	25
22	Total number of house connexions.	201	330	121	1,341	428	17	498	352
23	Number of trade connexions made during 1930-31.	9	2	Nil	3	10	Nil	Nil	3
24	Total number of trade connexions.	140	40	40	136	82	21	Nil	15
	<i>Annual charges and cost of water supplied.</i>								
25	Maintenance charges. Rupees	1,67,846	2,39,900	2,34,523	2,94,343	2,87,012	32,598	71,709	43,077
26	Interest and sinking funds charges. „	66,568	1,57,401	90,248	34,522	1,46,936	Nil	28,828	25,539
27	Total charges .. „	2,34,414	3,97,301	3,24,771	3,28,865	4,33,948	32,598	1,00,542	68,666
28	Cost per 1,000 gallons Annas per 100 feet lift.	0.69	0.76	0.79	1.23	1.13	0.81	0.76	2.18
29	Cost per 1,000 gallons „ maintenance charges.	1.31	1.73	1.40	1.56	1.75	1.15	9.98	10.04
30	Cost per 1,000 interest „ and sinking fund charges.	0.52	1.14	0.54	0.13	0.89	Nil	4.01	5.96
31	Total charges per 1,000 gallons (items 29 and 30). „	1.83	2.87	1.94	1.74	2.64	1.15	13.99	16.00
	<i>Income from water works.</i>								
32	Unmetered—								
	(a) Water rate recovered (assessment or ferruie). Rupees	1,67,552	3,40,885	2,40,005	3,68,355	3,41,323	26,462	4,568	46,268
	(b) Amount credited to water works for water used for municipal purposes. „	21,994	Nil	47,797	Nil	Nil	Nil	Nil	11,902
	(c) Buildings and other receipts. „	3,828	10,930	17,633	6,942	46,848	470	1,220	1,316
	Total .. „	1,93,374	3,51,815	3,05,435	3,75,297	3,88,171	26,932	5,788	59,986
33	Metered—								
	(a) Sale of water by meter. „	98,173	53,928	3,711	1,27,647	1,45,175	5,837	75,704	30,299
	(b) Meter rent .. „	2,175	3,557	968	12,467	6,664	102	2,521	2,665
	Total .. „	1,00,348	62,485	4,679	1,40,114	1,51,839	5,939	78,225	32,964
34	Total income (items 32 and 33). „	2,93,722	4,14,300	3,10,164	5,15,411	5,40,010	32,871	84,013	92,940
	<i>Income and working charges.</i>								
35	Receipts per 1,000 gallons supplied through meter. Annas	4.86	6.47	1.47	2.84	5.41	2.89	25.87	28.25
36	Receipts per 1,000 gallons assessment rating. „	1.80	2.73	1.86	2.69	2.85	1.02	1.39	19.20
37	Receipts per 1,000 gallons on total consumption. „	2.30	2.99	1.85	2.73	3.29	1.16	11.69	21.66
38	Profit or loss per 1,000 gallons supplied. „	Profit 0.47	Profit 0.12	Loss 0.09	Profit 0.99	Profit 0.65	Profit 0.01	Loss 2.30	Profit 5.66
39	Profit or loss on year's working. Rupees	„ 59,303	„ 16,999	„ 14,607	„ 1,86,546	„ 1,06,062	„ 273	„ 16,529	„ 24,274

No. I.

in the United Provinces for the year 1930-31—(concluded).

Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.	Kosi.	Fatehpur Sikri.	Aligarh.	Remarks.
5	Nil	1	1	Nil	Nil	Nil	3	Nil	Nil	
52	6	9	1	41	11	2	3	Nil	Nil	
Nil	Nil	2	Nil	Nil	Nil	Nil	1	Nil	Nil	
2	2	71	17	Nil	2	Nil	1	Nil	Nil	
9,231 12,873	15,419 Nil	7,608 21,788	56,351 18,350	27,141 11,426	27,012 11,424	8,361 Nil	6,367 Nil	3,163 Nil	5,323 22,633	
22,104	15,419	29,396	74,701	38,567	38,436	8,361	6,367	3,163	27,956	
Nil	1.88	Nil	2.11	1.92	2.84	1.85	6.02	2.33	3.87	
1.24	4.20	0.35	3.67	2.70	4.99	2.41	6.69	4.72	5.22	
1.87	Nil	0.99	1.20	1.13	2.11	Nil	Nil	Nil	22.19	
3.21	4.20	1.34	4.87	3.83	7.10	2.41	6.69	4.72	27.41	
Nil	14,177	25,789	59,048	38,385	17,135	6,613	8,760	Nil	Nil	
Nil	Nil	Nil	6,809	1,000	8,784	Nil	Nil	Nil	Nil	
1,842	159	1,136	2,125	1,202	30,469	88	28	Nil	Nil	
1,842	14,336	26,925	67,982	40,587	56,388	6,701	8,788	Nil	Nil	
10,594	1,520	1,180	125	994	1,881	559	282	Nil	Nil	
Nil	97	151	100	465	139	9	Nil	Nil	Nil	
10,594	1,617	1,331	225	1,459	2,020	568	282	Nil	Nil	
12,436	15,953	28,256	68,207	42,046	58,408	7,269	9,070	Nil	Nil	
22.45	7.87	1.96	2.39	2.20	10.60	8.76	9.54	Nil	Nil	
0.29	4.14	1.28	4.46	4.31	10.80	1.97	9.53	Nil	Nil	
1.81	4.35	1.29	4.45	4.17	10.79	2.10	9.53	Nil	Nil	
Loss 1.40	Profit 0.15	Loss 0.05	Loss 0.42	Profit 0.34	Profit 3.69	Loss 0.31	Profit 2.84	..	..
.. 9,668	.. 534	.. 1,140	.. 6,494	.. 3,479	.. 19,972	.. 1,092	.. 2,703	..	..

APPENDIX No. I(A).

Statement showing total demand, amount recovered, remissions and arrears of various water works in the United Provinces during the year 1930-31.

Water works stations..	Total demand.	Total amount recovered.	Total amount of remissions.	Arrears on March 31, 1931.		Remarks.
				Total amount.	Percentage.	
	Rs.	Rs.	Rs.	Rs.	Rs.	
Agra	4,37,301	2,93,722	9,437	1,34,142	30.67	
Allahabad	4,80,232	4,14,300	1,889	64,043	13.34	
Benares	4,51,157	3,10,164	6,136	1,34,857	29.89	
Cawnpore	6,70,464	5,15,411	2,320	1,52,733	22.60	
Lucknow	5,49,683	5,40,010	90	9,583	1.74	
Meerut	43,043	32,871	106	10,066	23.39	
Mussoorie	94,720	84,013	336	10,371	10.95	
Naini Tal	96,488	* 92,940	50	3,632	3.76	* Rs. 134 excess recovery.
Dehra Dun	12,656	12,436	44	176	1.39	
Jhansi	17,746	15,953	620	1,173	6.61	
Mirzapur	49,944	28,256	177	21,511	43.07	
Muttra	86,173	68,207	3,795	14,171	16.44	
Fyzabad	47,206	† 42,046	1,762	3,483	7.38	† Rs. 85 excess recovery.
Hardwar	59,265	53,408	24	833	1.40	
Unao	11,049	7,269	113	3,667	33.19	
Kosi	11,094	9,070	240	1,784	16.08	
Fatehpur Sikri			No assessment.			
Aligarh			No assessment.			
Total	31,18,221	25,25,076	27,139	5,66,225	18.16	

APPENDIX No. I(B).

Statement showing number and size of all connections ; also number and size of metered connections for the year 1930-31.

Name of stations.	Size of connections.																	Remarks.		
	1"	3/16".	1/4".	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	6"	8"	10"	12"		Un- known con- nexions.	Total.
Unmetered supplies.																				
Agra	723	..	848	2,735	520	..	165	75	..	20	5,086	*2 1/2 inches. †T connexions.
Allahabad	621	..	1,198	2,970	1,362	60	48	86	..	10	..	..	..	..	..	..	..	..	6,364
Benares	3,415	..	9,588	931	863	14	19	18	..	1	1	15	1	1	..	..	..	*1	14,872
Cawnpore	..	651	4,328	2,192	1,466	8	400	440	23	93	..	..	..	..	..	..	..	†7	9,608
Lucknow	..	..	..	8,754	1,265	108	166	116	12	2	..	..	..	..	..	..	..	..	10,425
Meerut	..	..	..	1,494	440	..	21	10	..	..	..	..	..	..	..	..	..	..	1,965
Mussoorie	..	..	..	..	16	..	..	..	..	..	..	..	..	..	..	..	..	..	16
Naini Tal	..	..	..	..	1	..	2	1	1	..	2	..	..	..	..	..	..	..	7
Dehra Dun..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Jhansi	..	..	6	..	63	..	5	2	..	1	4	..	..	..	..	..	..	..	81
Mirzapur	20	..	265	1,555	481	..	170	59	47	1	..	..	..	..	..	..	..	..	2,604
Muttra	458	..	1,145	79	103	..	2	..	..	..	..	..	..	..	..	..	..	..	1,787
Fyzabad	822	..	197	66	53	..	..	..	..	..	..	..	..	..	..	..	..	..	1,128
Hardwar	60	..	64	7	54	..	..	..	..	..	..	..	..	..	..	..	..	..	185
Unao	57	..	69	25	10	..	..	..	..	..	..	..	..	..	..	..	..	..	161
Kosi	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Fatehpur Sikri	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aligarh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	6,176	651	17,708	20,810	6,698	196	998	808	87	128	18	15	1	1	..	..	..	8	54,303
Metered supplies.																				
Agra	3	..	19	62	112	..	76	34	..	19	2	6	..	5	2	..	1	..	341	†15 inches.
Allahabad	..	..	..	1	128	48	89	55	..	10	16	10	12	1	..	..	..	..	370
Benares	..	..	..	..	50	..	23	20	11	9	4	3	1	..	..	..	..	..	161
Cawnpore	..	..	1	1	662	..	221	344	9	148	49	32	10	..	1	..	..	..	1,477
Lucknow	..	..	..	..	220	..	105	115	..	42	15	6	5	..	..	..	..	†1	510
Meerut	..	..	..	..	28	..	3	5	..	..	..	2	..	..	..	..	..	..	38
Mussoorie	..	..	..	..	441	..	51	6	..	..	..	..	..	..	..	..	..	..	498
Naini Tal	..	..	..	..	93	252	17	4	..	1	..	..	..	..	..	..	..	..	367
Dehra Dun..	..	..	..	..	35	..	4	13	..	2	..	..	..	..	..	..	..	..	54
Jhansi	..	..	..	..	..	..	1	1	..	3	..	..	..	1	..	..	..	..	8
Mirzapur	..	..	..	..	1	17	33	18	2	7	..	1	..	1	..	..	..	..	80
Muttra	..	..	..	..	13	..	2	..	1	..	..	..	..	..	..	..	..	..	18
Fyzabad	..	..	2	..	18	..	12	11	..	..	..	..	..	..	..	..	..	..	41
Hardwar	..	..	..	..	10	..	..	1	..	..	..	..	..	..	..	..	..	..	13
Unao	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2
Kosi	..	..	..	..	3	..	..	1	..	..	..	..	..	..	..	..	..	..	4
Fatehpur Sikri	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aligarh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	3	..	22	64	1,855	317	638	628	23	242	90	60	28	7	3	..	1	1	3,982	

Annual maintenance accounts of

Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.	Mus-soorie.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I.—Establishment.—							
(a) Pumping ..	18,488	39,263	28,048	20,682	43,244	9,756	9,189
(b) Workshops ..	5,175		10,279	5,466		..	..
(c) Settling tanks and filters.	492	6,121	321	11,196	43,244	402	..
(d) Inlet chambers, well and grounds, etc.	..		..	..		..	..
(e) Distribution ..	10,413	11,962	13,955	15,716		3,800	1,940
(f) Clerical staff ..	1,932	Included in (a) and (b).	4,602	3,335		966	..
(g) Menial staff ..	3,119		1,157	776		1,200	1,347
(h) Office contingencies ..	2,858	1,702	788	244	1,081	1,240	1,541
(i) Rent ..	416		537	563	806	60	30
II.—Fuel, lubricants and stores.—							
(a) Fuel (coal, fuel oil or electric energy).	(1) 70,973	(2) 1,52,392	(3) 1,47,017	(4) 1,22,289	(5) 1,80,232	(6) ..	(7) 40,114
(b) Lubricating oil ..	8,217	1,728	974	676	69	408	99
(c) Waste ..	658		1,050	..		200	
(d) Packing ..	600	2,007	177	..	1,915	428	710
(e) Petty stores ..	6,946		5,488	2,971		808	
III.—Intake.—							
(a) Training river ..	6,128	..	..	913	..	..	..
(b) Cleaning channels and wells.	5,451	..	..	..	114	62	..
IV.—Settling tanks and filters.—							
(a) Cleaning settling tanks and wells.	1,404	..	2,291	334	29,012	47	..
(b) Cleaning and renewing filter-beds.	6,949	8,227	2,947	..	3,712	1,365	..
(c) Purchase of sand ..	13,431	5,002	2,021	2,626	15,180	730	..
(d) Purchase of aluminoferric.	..	5,270	4,639	9,518	..	2,351	..
V.—Distribution.—							
(a) Pipes and fittings ..	529	2,869	829	5,860	3,711	776	4,722
(b) Meters ..	458		285	12,321	540	..	7,070
(c) Standposts or hydrants	370		..	..	..	..	..
VI.—Repairs.—							
(a) To tanks ..	350	..	..	9	..	..	1,074
(b) To buildings and ground.	1,310	1,562	3,215	506	327	969	604
(c) To machinery ..	98	1,046	2,477	1,533	4,553	884	2,232
(d) To rising main ..	..	..	..	..	..	..	..
(e) To tools and plant ..	71	..	..	942	..	..	..
VII.—Water analysis ..	..	749	1,426	867	2,516	771	1,037
VIII.—Cost of water—							
Canal department dues ..	1,000	..	..	75,000	..	5,375	..
Total ..	1,67,846	2,39,900	2,34,523	2,94,343	2,87,012	32,598	71,709
Interest and sinking fund charges.	66,568	1,57,401	90,248	34,522	1,46,936	..	28,833
Grand Total ..	2,34,414	3,97,301	3,24,771	3,28,865	4,33,948	32,598	1,00,542

*Includes Rs. 1,505 paid to Messrs. Mather and Platt, Ltd., for running electric plant at Karelabagh.

(1) Rupees 4,780 in excess of consumption. Electrical charges, for Maithan and Ohilli Int. Rs. 1,516, for Raw water Rs. 10,444 and cost of fuel oil Rs. 12,473.

(2) Rupees 9,296 in excess of consumption. Cost of coal for workshop, etc., Rs. 723, fuel oil for Daraganj Rs. 1,118 and electrical charges for Mayo Hall Rs. 3,918.

(3) Rupees 3,264 less on consumption. Electrical charges for Bhelupura and Bhadaini Rs. 1,37,699.

(4) Electrical charges. Coal worth Rs. 1,551 was used for workshop and municipal purposes.

(5) Electrical charges. Coal worth Rs. 257 was used for workshop and municipal purposes.

(6) No fuel was purchased during the year. Pumping done by turbines. Last year's stock was used for banking engines and workshop.

(7) Electrical charges.

No. II.

water works during the year 1930-31.

Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.	Kosi.	Fateh-pur Sikri.	Aligarh.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
6,344	..	3,335	4,440	8,041	6,405	2,675	1,653	1,196	1,116	1,334
	..	..		660	1,915	1,636	..	..	..	..

	..	..		3,360	1,920	2,718	564	1,094	188	222
	2,757	..		380	..	717	554	..	540	..
	4,236	..		902	234	1,483	455	271	126	306
465	122	348	490	626	1,058	426	35	846	21	17
..	..	..	..	..	..	..	4	..	12	..
(8) 31,817	..	(9) 4,936	..	(10) 42,341	(11) 7,970	(12) 16,551	(13) 2,651	(14) 629	(15) 654	(16) 3,059
132	..	200	..	126	1,894	75	1,711	299	227	13
39	..	20	..	70	..	27	107	25	49	2
102	..	157	..	77	92	50	..	..	17	..
361	..	100	..	325	1,214	100	187	88	116	16
..	..	204	..	..	..	..	..	..	..	..
..
..
..
..
..
835	1,803	738	22	83	614	48	..	426	..	..
..	..	116	..	..	..	..	..	..	..	..
..	..	..	39	..	101	..	..	..	5	12
137	..	..	654	..	589	177	..	42	..	..
..	..	..	375	281	224	438	..	22	17	..
1,261	..	203	..	127	674	350	813	658	5	55
..	..	13	..	..	..	..	..	..	..	..
187	..	68	..	..	77	432	..	291	430	..
1,897	313	..	306	..	194	300	365	85	..	355
..	..	4,981	..	..	..	..	..	..	..	..
43,077	9,231	15,419	7,608	56,351	27,141	27,012	8,361	6,367	3,163	5,363
25,589	12,873	..	21,788	18,350	11,426	11,424	..	..	..	22,633
68,666	22,104	15,419	29,396	74,701	38,567	33,436	8,361	6,367	3,163	27,956

(8) Electrical charges.

(9) Rupees 1,712 less on consumption.

(10) Electrical charges, fuel oil worth Rs. 124 was used for pumping by Diesel engines and Municipal purposes.

(11) Rupees 1,812 less on consumption.

(12) Electrical charges.

(13) Rupees 480 less on consumption.

(14) " 66 less on consumption.

(15) " 132 in excess of consumption.

(16) Electrical charges.

APPENDIX No. III.

Statement showing costs initial of subsequent extensions and improvements, chargeable to capital on the various water works in the United Provinces for the year ending March 31, 1931.

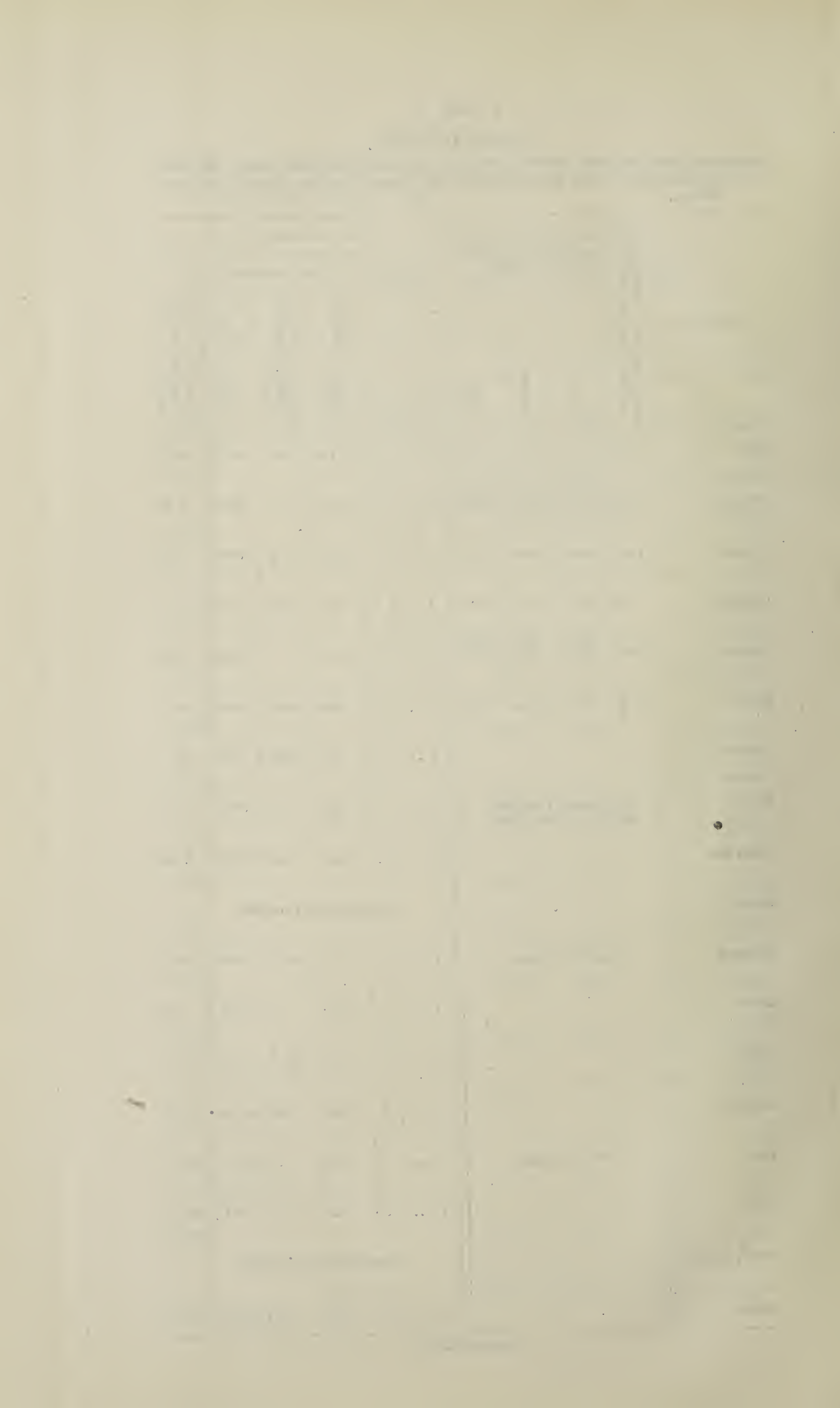
Water works stations.					Initial capital cost.	Cost of subsequent extension, etc.	Expenditure during the year 1930-31.	Total.
					Rs.	Rs.	Rs.	Rs.
Agra ..	..	..	..	..	11,70,761	23,59,305	17,616	35,47,682
Allahabad	..	..	..	..	16,24,061	27,84,282	32,781	44,41,124
Benares	..	..	..	..	25,61,881	17,60,611	71,958	43,94,450
Cawnpore	..	..	..	..	14,44,570	21,59,315	21,778	36,25,663
Lucknow	..	..	..	..	15,15,736	47,74,375	1,21,546	64,11,657
Meerut	..	..	..	..	7,51,710	67,987	1,648	8,21,345
Mussoorie	..	..	..	..	4,79,754	7,86,226	16,276	12,82,256
Naini Tal	..	..	..	..	2,47,000	8,00,870	3,744	10,51,614
Dehra Dun	..	..	..	..	97,241	3,77,778	3,546	4,78,565
Jhansi	..	..	..	..	96,556	97,226	Nil	1,93,782
Mirzapur	..	..	..	..	5,98,492	1,31,186	4,415	7,34,093
Muttra	..	..	..	..	5,17,288	90,596	13,661	6,21,545
Fyzabad	..	..	..	..	9,48,662	45,438	837	9,94,937
Hardwar	..	..	..	..	1,96,919	2,33,776	2,500	4,33,195
Unao	..	..	..	..	1,18,664	17,329	7,433	1,43,926
Kosi ...	..	..	..	..	70,322	422	557	71,301
Fatehpur-Sikri ..	..	..	..	..	52,084	Nil	Nil	52,084
Aligarh	..	..	..	..	5,70,992	Nil	828	5,71,820
GRAND TOTAL					1,30,62,643	1,65,37,222	3,21,124	2,99,20,989

APPENDIX No. IV.

Statement showing filter area out of operation, rate of filtration, and results of water analyses of the water works in the United Provinces during the year 1930-31.

Water works.	Sand filter area of operation per million gallons pumped sq. feet.	Filtration rate in gallons per square foot per day of sand filter.			Water from supply mains.							
					Chemical analyses.			Bacteriological analyses.				
		Maximum.	Minimum.	Average.	Good.	Bad.	Total.	Number of samples tested.	Number of samples containing over 100 colonies.	Average number of microbes per c. c.	Percentage (on total) of samples over 100 per c. c.	
Agra ..	2,679	34·00	24·00	31·73	4	..	4	476	Nil	41·16	Nil	
Allahabad ..	7,951	50·00 *1,834	10·00 *1,012	28·12 *1,418·5	3	1	4	623	40	42·13	6·42	
Benares ..	4,548	50·00	37·50	47·29	5	..	5	483	22	76·50	4·55	
Cawnpore ..	350	62·00	18·00	45·97	4	..	4	695	Nil	19·17	Nil	
Lucknow ..	33,255	56·20 *2,217	6·20 *328	30·33 *1,576	5	1	6	264	9	28·61	3·40	
Meerut ..	5,132	31·00	25·00	30·53	4	..	4	252	Nil	27·15	Nil	
Mussoorie ..	Water supply from deep springs and is not filtered.				5	..	5	109	Nil	20·95	Nil	
Naini Tal ..					4	..	4	104	19	63·11	18·27	
Dehra Dun ..					14	..	14	124	59	142·39	47·58	
Jhansi ..	..	Information not available.									
Mirzapur ..	Gravitation supply.				1	..	1	73	Nil	59·32	Nil	
Muttra ..	Tube-well supply.				4	..	4	115	2	52·26	1·74	
Fyzabad ..					4	..	4	167	Nil	14·91	Nil	
Hardwar ..					8	..	8	219	29	27·00	13·24	
Unao ..					3	..	3	26	8	67·04	30·77	
Kosi ..					2	..	2	8	3	3·20	37·50	
Fatehpur Sikri..	Information not available.											
Aligarh ..					..	1	1	33	26	386·39	78·78

*Paterson Filters.



Details of pumps, filters, tanks, reservoirs, rising mains, etc., in the water works of the United Provinces for 1920-31.

Item nos.	Particulars.	Agra.	Allahabad.	Banares.	Cawnpore.	Lucknow.	Mearut.	Mussoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.	Kosi.	Fatehpur-Sikri.	Aligarh.
1	Floor levels:— Unfiltered Station R. L. Filtered Station R. L.	505'00' 505'00'	Steam plant. 296'00' Electric plant. 230'00'	254'00' 268'00'	402'00' 410'00'	367'50' 395'50'	735'50' 735'50'	Murray Spring 5,494' Bhilaru Spring 5,700'	.. ..	Gravitation supply ..	749'50' ..	Gravitation supply. ..	580'00' ..	323'57' ..	941'80' ..	411'34' ..	612'40 ..	567'00' ..	.. ..
2	Highest water level during the year, R. L.	494'40'	272'80'	235'05'	373'00'	343'40'	305'00'	Mackinon Spring 6,000'	..	..	767'95'	460'00'	..	..	..	..	..	542'03'	..
3	Lowest water level during the year, R. L.	481'80'	234'00'	192'30'	357'00'	342'50'	771'00'	Landour Spring 6,663'	..	..	750'60'	455'50'	..	..	..	..	..	537'08'	..
4	Particulars of plant:— Unfiltered Station .. Filtered Station ..	2 Diesel sets .. 1 L. D. Worthington. 2 Mather and Platt motor driven vertical spindle centrifugal pump.	1 Triple expansion rotary. 2 Beam engine. 3 Mather and Platt "Lonovane" centrifugal pump direct driven by A. C. motors. 3 Mather and Platt "Lonovane" centrifugal pumps direct driven by G. E. C., A. C. motors.	1 H. D. Worthington. 2 Geared sets. (Standby). 3 Worthington vertical spindle centrifugal pumps direct driven by G. E. C., A. C. motors.	1 Triple expansion rotary. (Standby). 2 Vertical spindle centrifugal pumps direct driven by A. C. motors at river side. 3 Sets of centrifugal pumps direct driven by electric motor at unfiltered station Benajhabar.	2 Mather and Platt motor driven "Medivane" centrifugal pumps. 2 Water power turbines. 1 Semi-portable engine.	2 Murray Spring:—Two sets electrically driven geared three ram pumps single reduction gearing. Bhilaru Spring:—Two sets as above. Mackinon Spring:—Two pumps as above but with double reduction gearing. One semi-diesel oil engine. Landour:—Two sets of Worthington-Simpson three throw single plunger power pumps driven by Metropolitan Vickers reduction motors.	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
5	Capacity of pump:— Unfiltered G. P. M. Filtered station G. P. M.	Diesel sets 3,000 each. L. D. Worthington 1,700 each. Mather and Platt centrifugal pump 3,300 each.	Triple expansion set 2,700. Beam set 2,100 each. Motor pumps 3,000 each.	H. D. Worthington 3,333. Geared 4,200 each. Motor pumps 6,000 each.	Triple expansion 3,625. Motor pumps. River side 3,500 each. Benajhabar 3,600 each.	Motor pumps 7,500 each. 3 motor pumps:—1—6,000. 2—4,000 each.	1,200 each .. 1,100 each ..	.. ..	.. ..	.. ..	209 each .. ..	.. ..	1,000 each	900 each	250 each	220 ..	150 ..	106 ..	H. Z. 200 each. L. Z. 150 "

APPENDIX No. V—(continued).

Details of pumps, filters, tanks, reservoirs, rising mains, etc., in the water works of the United Provinces for 1930-31.

Item nos.	Particulars.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.	Mussoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.	Kosi.	Fatehpur-Sikri.	Aligarh.
6	Number of :— (a) Rising mains... (b) Leading mains (c) Distribution mains.	Three .. Thirteen .. Not supplied ..	Two .. Fourteen .. Eleven ..	Two .. Three .. One ..	Two .. Six .. Twelve ..	Two .. One .. Eighteen ..	Two .. Not supplied .. Ten ..	Four .. Five .. Six ..	Six .. Six .. Two ..	Not supplied. Six .. Eleven.	One .. One .. Ten ..	One .. Eight .. Five ..	One .. Three .. Fourteen ..	One .. One .. Eleven ..	Four .. Seven .. Three ..	Two .. Nil .. Three ..	One .. One .. Four ..	One .. One .. Four ..	Three. Two. Eight.
7	Length and size of :— (a) Rising mains (b) Leading mains (c) Distribution mains.	1. 10,400 ft. 28" 2. 7,300 „ 18" 3. 10,450 „ 8"	1. 8,580 ft. 20" 2. 8,580 „ 20"	1. 4,699 ft. 24" (old). 2. 4,065 „ 24" (new).	1. 3,690 ft. 20" 2. 3,690 „ 20"	1. 15,840 ft. 27" 2. 17,560 „ 20"	1. 38,230 ft. 15" 2. 8,500 „ 18"	1. 4,500 ft. 5" 2. 3,600 „ 4" 3. 1,300 „ 3½" 4. 3,200 „ 3"	1. 1,320 ft. 6" 2. 2,587 „ 5" 3. 1,795 „ 5" 4. 4,910 „ 4" 5. 3,484 „ 4" 6. 3,484 „ 3½"	Not supplied.	1. 19,272 ft. 9"	1. 30,254 ft. 12"	1. 4,317 ft. 12"	1. 7,047 ft. 14"	1. *690 ft. 15" 2. 931 „ 12" 3. 558 „ 10" 4. 577 „ 8"	1. 1,050 ft. 6" 2. 510 „ 5"	1. 2,580 ft. 6"	1. 3,268 ft. 5"	1. 3,256 ft. 15" 2. 1,000 „ 7" 3. 163 „ 3"
		1. 4,000 ft. 18" 2. 2,650 „ 18" 3. 8,900 „ 18" 4. 975 „ 15" 5. 3,650 „ 12" 6. 700 „ 12" 7. 1,800 „ 12" 8. 3,200 „ 12" 9. 900 „ 10" 10. 2,650 „ 10" 11. 1,950 „ 9" 12. 1,750 „ 8" 13. 1,400 „ 7"	1. 930 ft. 30" 2. 2,541 „ 25" 3. 2,310 „ 20" 4. 13,208 „ 16" 5. 4,323 „ 15" 6. 5,065 „ 14" 7. 1,180 „ 12" 8. 1,930 „ 10" 9. 2,030 „ 9" 10. 4,483 „ 8" 11. 6,585 „ 7" 12. 3,432 „ 6" 13. 3,400 „ 5" 14. 4,918 „ 4"	1. 16,896 ft. 30" to 8". 2. 21,648 „ 30" to 6". 3. 2,217 „ 15"	1. 7,200 ft. 38" 2. 1,575 „ 33" 3. 830 „ 25" 4. 4,400 „ 20" 5. 1,630 „ 18" 6. 5,800 „ 16"	1. 1,450 ft. 30"	Not supplied.	1. 7,630 ft. 4½" 2. 2,155 „ 4" 3. 5,250 „ 3½" 4. 7,000 „ 3" 5. 7,145 „ 2"	1. 5,280 ft. 5" 2. 3,209 „ 3" 3. 30,581 „ 2½" 4. 12,070 „ 2" 5. 16,834 „ 1½" 6. 5,050 „ 1½"	1. 7,370 ft. 6" 2. 17,405 „ 5" 3. 2,401 „ 4" 4. 63,500 „ 3" 5. 22,000 „ 2½" 6. 12,500 „ 2"	1. 228 ft. 10"	1. 8,196 ft. 16" 2. 2,859 „ 15" 3. 1,668 „ 12" 4. 1,231 „ 10" 5. 2,616 „ 9" 6. 3,762 „ 8" 7. 1,386 „ 6" 8. 1,020 „ 4"	1. 24 ft. 18" 2. 1,155 „ 14" 3. 600 „ 12"	1. 50 ft. 15"	1. * 690 ft. 15" 2. 5,328 „ 12" 3. 6,372 „ 10" 4. 2,248 „ 8" 5. 4,384 „ 6" 6. 1,143 „ 4" 7. 310 „ 3"	Nil ..	1. 125 ft. 7"	1. 3,501 ft. 3"	1. 6,215 ft. 20" to 9" 2. 3,697 „ 16" to 7"
		Not supplied ..	1. 7,410 ft. 14" 2. 6,831 „ 12" 3. 1,931 „ 10" 4. 3,572 „ 9" 5. 14,513 „ 8" 6. 10,875 „ 7" 7. 24,375 „ 6" 8. 14,124 „ 5" 9. 96,278 „ 4" 10. 53,121 „ 3" 11. 10,788 „ 2"	1. 330,158' 18" to 8".	1. 600 ft. 15" 2. 825 „ 14" 3. 2,200 „ 12" 4. 2,100 „ 11" 5. 5,485 „ 10" 6. 8,675 „ 9" 7. 14,025 „ 8" 8. 10,219 „ 7" 9. 17,803 „ 6" 10. 43,575 „ 5" 11. 4,650 „ 4" 12. 77,437 „ 3"	1. 1,200 ft. 21" 2. 3,100 „ 20" 3. 8,917 „ 18" 4. 3,411 „ 16" 5. 4,703 „ 15" 6. 2,677 „ 13" 7. 7,026 „ 12" 8. 2,000 „ 11" 9. 4,190 „ 10" 10. 17,657 „ 9" 11. 12,173 „ 8" 12. 15,441 „ 7" 13. 18,063 „ 6" 14. 31,818 „ 5" 15. 63,168 „ 4" 16. 14,947 „ 3" 17. 2,350 „ 2" 18. 290 „ 1½"	1. 211 ft. 11" 2. 66 „ 10" 3. 1,017 „ 7" 4. 701 „ 6" 5. 1,030 „ 5" 6. 8,792 „ 4" 7. 19,696 „ 3" 8. 5,554 „ 2" 9. 720 „ 1" 10. 591 „ ½"	1. 2,250 ft. 2½" 2. 11,265 „ 2" 3. 21,530 „ 1½" 4. 4,480 „ 1½" 5. 8,575 „ 1" 6. 3,040 „ ½"	1. 22,595 ft. 1" 2. 24,600 „ ½"	1. 4,620 ft. 5" 2. 10,893 „ 4" 3. 18,750 „ 3" 4. 10,753 „ 2½" 5. 8,273 „ 2" 6. 4,400 „ 1½" 7. 7,920 „ 1½" 8. 3,780 „ 1½" 9. 13,674 „ 1" 10. 3,465 „ ½" 11. 389 „ ½"	1. 2,570 ft. 9" 2. 1,980 „ 6" 3. 9,075 „ 6" 4. 2,550 „ 4" 5. 7,450 „ 4" 6. 16 „ 2" 7. 16 „ 2" 8. 16 „ 2" 9. 16 „ 2" 10. 16 „ 2"	1. 567 ft. 7" 2. 1,336 „ 6" 3. 2,007 „ 5" 4. 8,058 „ 4" 5. 51,678 „ 3"	1. 6,601 ft. 2" 2. 1,155 „ 9" 3. 660 „ 8" 4. 2,640 „ 7" 5. 3,680 „ 6" 6. 7,755 „ 5" 7. 13,045 „ 4" 8. 49,444 „ 3" 9. 660 „ 2½" 10. 8,623 „ 2" 11. 180 „ 1½" 12. 14,318 „ 1" 13. 1,819 „ ½" 14. 2,053 „ ½"	1. 43 ft. 15" 2. 188 „ 14" 3. 62 „ 12" 4. 1,175 „ 10" 5. 3,805 „ 9" 6. 1,650 „ 8" 7. 7,125 „ 7" 8. 7,350 „ 6" 9. 7,050 „ 5" 10. 16,350 „ 4" 11. 22,791 „ 3"	1. 2,500 ft. 6" 2. 3,893 „ 4" 3. 2,763 „ 3"	1. 931 ft. 5" 2. 1,183 „ 4" 3. 22,011 „ 3"	1. 1,100 ft. 5" 2. 1,800 „ 4" 3. 3,750 „ 3" 4. 1,500 „ 2½"	1. 491 ft. 1½" 2. 484 „ 1½" 3. 282 „ 1" 4. 1,016 „ ½"	1. 75 ft. 9" 2. 592 „ 8" 3. 6,264 „ 7" 4. 8,842 „ 6" 5. 22,906 „ 5" 6. 29,744 „ 4" 7. 13,722 „ 3" 8. 9,557 „ 2½"
8	Number of settling tanks.	Five ..	Three ..	Three ..	Five ..	Three ..	Three ..	..	..	..	..	..	..	..	..	..	..	..	..
9	Size of settling tanks	266' X 151' X 16' each.	Top 346' X 230' Bottom 296' X 100'. Height 16' 75".	Nos. 1 and 3—409' 5' X 325' 0' X 18' each. No. 2—409' 5' X 253' 8' X 18'.	Three—313' 5' X 243' 5' X 15' each. Two—906' 5' X 334' X 8' each.	240' X 290' X 16' 5' each.	100' X 60' 5' X 11' each.	..	..	..	..	..	..	..	..	..	..	..	..
10	Capacity of settling tanks. Gallons.	2,200,000 each ..	Nos. 1 and 3—4,400,620 each. No. 2—4,455,625.	Nos. 1 and 3—3,640,756 each. No. 2—8,722,146.	Three—7,810,460 each. Two—15,000,000 each	7,000,000 each ..	523,000 each ..	..	..	..	..	..	..	..	..	..	..	..	..
11	Number of :— (a) Slow sand filters. (b) Mechanical filters.	Seven .. Two ..	Six .. Five ..	Nine	Nine	Seven .. Ten ..	Four .. ..	.. ..	One chlorine plant..	....	....	....	....	....	....	....	....	....	....
12	Size of :— (a) Slow sand filters. (b) Mechanical filters.	200' X 100' each 23' X 18' X 10' each.	200' X 100' each 23' X 18' X 10' each.	200' X 100' each ..	200' X 100' each Puech Chabal 156' X 28' each.	200' X 100' X 7' each. 23' X 18' X 10' each.	150' X 100' each..	....	....	....	....	....	....	....	....	....	....	....	....

*Note.—This is one length of 15" pipe and common for rising and leading.

APPENDIX No. V—(continued).

Details of pumps, filters, tanks, reservoirs, rising mains, etc., in the water works of the United Provinces for 1930-31.

Item nos.	Particular.	Agra.	Allahabad.	Benares.	Cawnpore.	Lucknow.	Meerut.	Mussoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mitzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.	Kosi.	Fatehpur-Sikri.	Aligarh.
13	Number of clear water reservoirs.	Three ..	Two ..	Two ..	Three ..	Two ..	One ..	Six ..	One ..	..	..	..	..	..	..	..	..	..	..
14	Size of clear water reservoirs.	105' X 103' X 10' each.	116' 8' X 181' 8' X 12' each.	178½' X 148½' X 12' each.	Two old—135' X 106½' X 12' each. One new—135' X 200' X 12'.	107' X 105' X 12 each.	52½' X 43' X 7'	1. 48' X 25' X 8' Murray spring. 2. 30' X 20' X 13' Mackinon spring. 3. 48' X 25' X 8' Bhilaku spring. 4. 8—14' dia. X 12' each. Landour.	45' X 40' X 6' ..	..	..	..	..	..	..	..	..	..	..
15	Capacity of clear water reservoirs. Gallons.	676,000 each ..	1,168,700 each ..	1,854,068 each ..	Two old—953,000 each. One new—2,023,000.	798,500 each ..	110,600 ..	1. 60,000 .. 2. 30,000 .. 3. 60,000 .. 4. 10,000 each.	67,500 ..	..	..	..	..	..	..	..	..	..	..
16	Number of service reservoirs.	Four ..	One ..	One ..	Two ..	One ..	Two ..	Eight ..	Eighty-eight ..	..	Nine ..	One ..	Two ..	One ..	Two ..	One ..	One ..	One ..	One
17	Size of service reservoirs.	H. Z. (1) 66' dia. X 11½' deep. L. Z. (2) 28' X 16' X 8' each. (1) 60' X 16' X 8'.	58' 25' dia. X 31' deep.	60' dia. X 15' deep.	50' 5' X 36' at parade. 50' 5' X 40' at water-works.	60' X 60' X 12' ..	25' X 34' each ..	Gun Hill. 1. 78' X 37½' X 12'. 2. 20' X 23' X 8'. Vincent Hill. 3. 48' X 25' X 8'. 4. 40' X 25' X 8'. 5. 30' X 29' X 8'. Savoy Hill. 6. 29' X 22' X 6'. Landour Hill. 7. 6—14' dia. X 12' each. Dundiin. 8. 4—14' dia. X 12' each.	Small .. 82 Large .. 6 Small. 32—3' X 3' each. 29—2' 6' X 3' each. 1—4' X 3'. 3—4' X 5' each. 17—6' X 8' X 4' each. Large 1—36' X 15' X 9' 5'. 1—29' 5' X 15' X 9' 5'. 1—20' X 10'. 1—18' X 10'. 2—22' 5' X 13' 3' each.	..	1—40' X 15' X 8'. 1—4' X 4' X 4'. 7—5' X 5' X 5' each.	200' X 75' X 14' deep.	32' X 20' each ..	39'—7½' dia. X 15'—6' deep.	62'—8' X 60' X 12' each.	20' X 20' X 8' ..	12' dia. X 14' 5' ..	20' X 20' X 4' ..	46' 6' X 56' 6' X 11' 6'.
18	Capacity of service reservoirs, Gallons.	H. Z. 275,000 L. Z. 2—24,000 each. 1—48,000	500,000	265,000	At Parade 321,306 At water-works 896,785	250,000	100,000 each	(1) 219,375 (2) 30,000 (3) 60,000 (4) 50,000 (5) 30,000 (6) 65,175 (7) 60,000 (8) 40,000	228,070	..	1—30,000 1—400 7—779 each	1,310,000	100,000 each.	120,000	250,000 each	20,000	10,000	10,000	200,000
19	Number of public standposts:— One tap .. Two taps .. Four taps .. W. N. Cocks .. Bibcocks .. Push cocks .. Wall fountains .. Other types .. Total ..	243 72 65 129 2 65 2 7 585	169 60 82 64 200 31 .. 15 621	91 18 73 52 1 .. 24 2 311	73 51 81 119 3 227	267 180 .. 68 515	44 94 2 140	5 35 .. 9 5 3 1 58	73 164 3 8 167	38 48 Three taps 6 4	2 8 Three taps 5 5	34 27 9 56 80 32 .. 233	207 35 .. 20 107	45 42 .. 20 77	22 15 1 .. 13 51	6 5 28	18 } Fitted with 3 } W. N. cocks. 21	42 58 .. 1 101	
20	Number of fire hydrants.	143	193	87	155	360	97	..	20	..	..	122	8	43	9	17	1	..	50
21	Number of road watering posts or standpipes.	47	127	169	16	93	Swan neck Cocks 9 84	10	..	4	1	3	9	17	4	1	..	..	..
22	Number of cattle troughs.	51	43	33	24	45	17	9	5	9	4	17	19	7	1	..	1	..	..
													Flushing tanks 5 Flushing pipes 16 Urinal connections. 2 Water flushing latrine. 1 Pail dépôts 3 Connections to drain hand pump. 1						

APPENDIX No. VI.

Detailed estimate of expenditure incurred on health works under supervision of the Superintending Engineer, Public Health department, during the year 1930-31.

Serial number.	Name of places.	Water works original and special repairs.	Water works maintenance.	Drainage works.	Other works.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.
1	Agra	17,616	1,67,846	5,736	..	1,91,198
2	Aligarh	1,66,660	5,323	..	..	1,71,983
3	Allahabad	32,781	2,39,900	10,514	9,834	2,93,029
4	Allahabad Magh Mela ..	19,715	1,870	..	*10,360	31,945
5	Almora	1,40,415	..	5,319	..	1,45,734
6	Atrauli	103	..	301	2,692	3,096
7	Atsalia (Hardoi) ..	..	..	250	..	250
8	Azamgarh .. ..	..	..	58	323	381
9	Bahraich	2,201	..	11,314	..	13,515
10	Ballia.. ..	698	..	771	85	1,554
11	Banda.. ..	28	..	22	6,118	6,168
12	Baraut	100	..	50	9,515	9,665
13	Bareilly	1,790	..	637	†319	2,746
14	Benares	71,958	2,34,523	38,000	..	3,44,481
15	Bijnor.. ..	210	..	422	1,282	1,914
16	Bisalpur	204	..	554	..	758
17	Brindaban	2,892	..	1,404	†1,067	} 5,725
18	Budaun .. ..	..	..	52,175	362 1,529	
19	Bulandshahr .. ..	..	..	235	..	235
20	Chandausi	464	..	2,003	..	2,467
21	Cawnpore	21,778	2,94,343	1,74,778	39,615	5,30,514
22	Dehra Dun	3,546	9,231	14,631	..	27,458
23	Dhampur .. ..	..	..	..	407	407
24	Etah .. ..	..	..	413	108	521
25	Etawah .. ..	..	..	1,240	522	1,762
26	Fatehpur .. ..	..	..	996	..	996
27	Fatehpur Sikri	2,444	3,163	..	..	5,607
28	Fyzabad	837	27,141	324	3,558	31,860
29	Ghaziabad	971	..	1,969	3,502	6,442
30	Ghaziipur	332	..	2,491	2,832	5,655
31	Gorakhpur .. ..	..	..	3,993	3,571	7,564
32	Gonda.. ..	..	..	..	6,988	6,988
33	Haldwani	5,535	..	1,404	1,697	8,636
34	Hardwar	2,500	27,012	939	73	30,524
35	Hathras	10,895	..	959	..	11,854
36	Jaunpur .. ..	..	..	489	16,030	16,519
37	Jhansi .. ..	..	15,419	11,043	..	26,462
38	Jhansi Chirgaon .. ..	..	..	29,954	..	29,954
39	Kaimganj .. ..	..	..	..	793	793
	Carried over ..	5,06,673	10,25,771	3,75,438	1,23,182	20,31,064

* Electric supply. † Anti-malarial works, ‡ Infectious Diseases Hospital.

APPENDIX No. VI—(concluded).

Detailed estimate of expenditure incurred on health works under supervision of the Superintending Engineer, Public Health department, during the year 1930-31.

Serial number.	Name of places.	Water works original and special repairs.	Water works maintenance.	Drainage works.	Other works.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.
40	Brought forward ..	5,06,673	10,25,771	3,75,428	1,23,182	20,31,064
	Kairana ..	..	..	545	1,322	1,867
41	Kanauj ..	388	..	..	..	388
42	Kasganj ..	..	..	765	..	765
43	Khurja ..	2,510	..	285	†61,510 5,396	69,701
44	Kosi ..	557	6,367	480	3,528	10,932
45	Lakhimpur ..	..	..	1,791	..	1,791
46	Lalitpur ..	..	..	164	105	269
47	Lucknow ..	1,21,546	2,87,012	10,428	835	4,19,821
48	Meerut ..	1,648	32,598	674	..	34,920
49	Mirzapur ..	4,415	7,608	1,270	1,063	14,356
50	Mogal Sarai ..	100	..	641	625	1,366
51	Mussoorie ..	16,276	71,709	2,501	2,621	92,002
52	Muttra ..	27,877	56,351	*3,427 659	..	88,314
53	Muzaffarnagar ..	..	..	56,531	..	56,531
54	Nagina ..	1,095	..	..	1,001	2,096
55	Naini Tal ..	3,744	43,077	1,856	3,005	51,682
56	Najibabad ..	5,124	..	3,662	7,795	16,581
57	Nawabganj (Bara Banki) ..	..	..	2,004	387	2,391
58	Orai ..	..	..	502	..	502
59	Pilibhit ..	176	..	1,161	128	1,465
60	Rae Bareli ..	110	..	470	40	620
61	Roorkee ..	774	..	870	435	2,079
62	Saharanpur ..	..	..	19,054	923	19,977
63	Sahaswan ..	220	..	976	2,275	3,471
64	Shahjahanpur ..	..	..	337	7,323	7,660
65	Sambhal ..	..	..	2,396	..	2,396
66	Sikandrabad ..	..	..	..	242	242
67	Sikandra Rao ..	334	..	960	118	1,412
68	Soron ..	..	..	2,103	362	2,465
69	Sultanpur ..	245	..	534	166	945
70	Sandila ..	180	..	360	140	680
71	Sitapur ..	..	..	872	1,553	2,425
72	Tanda.. ..	..	..	197	..	197
73	Tilhar.. ..	..	..	589	..	589
74	Ujhaini ..	..	..	515	..	515
75	Unao ..	7,433	8,361	1,499	3,326	20,619
	Total ..	7,01,420	15,38,854	4,96,516	2,29,406	29,66,196

* Sewage Farm.

† Electric supply.

APPENDIX No. VII.

Comparative statement of fuel consumption, working expenses and receipts in the United Provinces during the year 1930-31.

Serial number.	Name of water works.	Class of work, gravitation or pumping.	Fuel consumed.		Price of fuel per ton.	Total (average) lift.	Percentage of charges for—					Per 1,000 gallons.		Per head per annum.			Remarks.
			Tons.	lbs.			Rs.	Feet.	Establishment.	Fuel.	Oil and waste.	Repairs to machinery.	Other charges.	Total working cost.	Total receipt.	Total working cost.		Total receipt.	Profit or loss.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Agra ..	Pumping ..	(1) 4,152.46	0.02408	15.94	188.78	25.56	42.28	5.29	0.06	26.51	1.83	2.30	20.17	25.27	5.10	Profit.
2	Allahabad ..	Ditto ..	(2) ..	..	..	228.04	24.61	63.52	0.72	0.44	10.71	2.87	2.99	40.43	42.16	1.73	Do.
3	Benares ..	Ditto ..	(3) 10,953.14	0.05199	13.72	176.31	25.45	62.69	0.86	1.06	9.94	1.94	1.85	26.19	25.01	1.18	Loss.
4	Cawnpore ..	Ditto ..	(4) ..	..	..	140.80	19.70	41.55	0.23	0.52	38.00	1.74	2.72	24.31	38.10	13.79	Profit.
5	Lucknow ..	Ditto ..	(5) ..	..	..	154.94	15.72	62.80	0.02	1.59	19.87	2.64	3.29	33.06	41.14	8.08	Do.
6	Meerut ..	Turbines worked by water power.	(6) ..	..	..	141.74	53.45	..	1.87	2.71	41.97	1.15	1.16	6.71	6.77	0.06	Do.
7	Mussoorie ..	Pumping and gravitation.	..	..	..	Av. 1,304.05	19.59	55.93	0.14	3.11	21.23	13.99	11.69	105.22	87.92	17.30	Loss.
8	Naini Tal ..	Ditto ..	(7) ..	..	..	Av. 460.01	15.80	73.87	0.39	2.93	7.01	16.00	21.66	63.44	85.86	22.42	Profit.
9	Dehra Dun ..	Gravitation ..	(8) 497.80	0.08502	13.35	223.52	23.89	..	..	1.32	22.92	3.21	1.81	10.37	5.83	4.54	Loss.
10	Jhansi ..	Pumping ..	(9) ..	..	..	..	81.65	32.01	1.43	..	41.35	4.20	4.35	9.87	10.21	0.34	Profit.
11	Mirzapur ..	Gravitation ..	(10) 66.30	0.00656	140.00	174.10	22.93	75.14	0.35	0.22	18.35	1.34	1.29	12.25	11.77	0.48	Loss.
12	Muttra ..	Pumping ..	(11) 19.94	0.00620	157.08	140.56	49.73	29.37	6.98	2.48	1.36	4.87	4.45	28.04	25.60	2.44	Do.
13	Fyzabad ..	Ditto ..	(12) 4.63	0.00612	150.00	175.53	31.33	61.27	0.33	1.80	11.44	3.53	4.17	20.57	22.42	1.85	Profit.
14	Hardwar ..	Ditto ..	(13) 3.59	0.00370	145.46	130.00	30.23	31.71	21.74	9.72	5.72	7.10	10.79	63.15	103.56	35.41	Do.
15	Unao ..	Ditto ..	(14) ..	..	..	111.18	59.71	9.88	5.09	10.34	6.60	2.41	2.10	14.86	12.92	1.94	Loss.
16	Kosi ..	Ditto ..	..	..	..	202.72	51.94	20.68	8.72	0.16	14.98	6.69	9.53	15.09	21.49	6.40	Profit.
17	Fatehpur-Sikri ..	Ditto ..	..	..	..	135.00	34.02	57.47	0.23	1.03	7.20	4.72	..	11.50	*..	..	..
18	Aligarh ..	Ditto ..	..	..	..	..	..	..	..	..	..	27.41	..	7.34	*..	..	..

(1) Coal 3,299.90 tons, fuel oil 102.25 tons and Electrical charges Rs. 1,516 for Maithan and Chhili-Int and Rs. 10,444 for Raw Water Pumping Plant converted into coal and fuel oil 750.31 tons.

(2) Pumping done by Electric motors. 57.80 tons of coal used for workshop and 11.72 tons of fuel oil for Daraganj.

(3) Coal 916.76 tons and electrical charges Rs. 1,37,699 converted to coal 10,036.38 tons coal consumption includes 92.04 tons for municipal purposes

(4) Pumping done by Electric motors. 156.70 tons of coal were used (58.85 tons for workshop and 97.85 tons for Municipal purposes).

(5) Pumping done by Electric motors. 24.07 tons of coal were used (16.07 tons for workshop and 8.00 tons for Municipal purposes).

(6) Pumping done by Turbine pumps. Wood consumption 12.00 tons for other purposes.

(7) Pumping done by Electric motors. 1.75 tons of coal used for Municipal purposes

(8) Includes 5.55 tons of coal for Municipal purposes.

(9) Pumping done by Electric motors. 0.92 tons of fuel oil were used (0.84 tons for pumping 2.457 million gallons of water by Diesel Engines and 0.08 tons for Municipal purposes).

(10) Includes 0.65 ton of fuel oil for Municipal purposes and 0.54 ton for shortage, etc.

(11) Fuel oil.

(12) Includes 0.24 ton of fuel oil for shortage.

(13) Includes 0.03 ton of fuel oil for shortage.

(14) Pumping done by Electric motors.

* No income.

APPENDIX No. VIII.

Statement showing initial capital cost, details of income and expenditure for water works in the United Provinces for the year 1930-31.

Serial no.	Particulars.	Agra.	Allah-abad.	Benares.	Cawn-pore.	Lucknow.	Meerut.	Mussoorie.	Naini Tal.	Dehra Dun.	Jhansi.	Mirzapur.	Muttra.	Fyzabad.	Hardwar.	Unao.	Kosi.	Fatehpur-Sikri.	Aligarh
1	Description of plant ..	Oil Engine, steam power and electric motors.	Steam power, oil engine and electric motors.	Steam power and electric motors.	Steam power and electric motors.	Electric motors.	Water turbines and steam power.	Gravitation and electric motors.	Gravitation and electric motors.	Gravitation.	Steam power.	Gravitation.	Oil engine and electric motors.	Oil engine and electric motors.	Electric motors.	Oil engine.	Oil engine.	Oil engine.	Electric motors.
2	Initial capital cost in Rupees lakhs.	11.71	16.24	25.62	14.45	15.16	7.52	4.80	2.47	0.97	0.97	5.98	5.17	9.49	1.97	1.19	0.70	0.52	5.71
3	Total cost of works in lakhs.	35.48	44.41	43.94	36.26	64.12	8.21	12.82	10.52	4.78	1.94	7.34	6.21	9.95	4.83	1.44	0.71	0.52	5.72
4	Number of inhabitants drawing their supply from mains.	185,946	157,220	198,447	216,436	210,000	77,711	15,289	17,319	34,092	25,000	38,400	42,615	30,000	9,024	9,000	6,753	4,400	60,948
5	Hours of supply daily ..	10.00	15.50	8.55	16.00	22.00	16.00	24.00	13.23	24.00	9.00	22.00	6.75	8.75	18.00	9.00	10.00	8.00	6.00
6	Quantity supplied during year in million.	2,045.720	2,216.396	2,676.660	3,021.300	2,628.424	453.602	115.007	68.660	110.000	58.678	349.933	245.347	161.105	86.586	55.380	15.228	10.713	16.320
7	Total Horse Power per annum in million.	1.47	1.12	1.20	1.41	0.76	0.29	0.76	0.16	..	0.07	..	0.22	0.11	0.03	0.04	0.01	0.01	0.01
8	Maximum daily average during any one month in million.	6.943	7.325	7.731	9.626	8.484	1.400	0.408	0.285	0.435	0.223	1.036	0.735	0.488	0.391	0.190	0.046	0.041	0.128
9	Average daily supply for the year in million.	5.605	6.072	7.333	8.278	7.201	1.243	0.315	0.188	0.301	0.161	0.959	0.672	0.441	0.237	0.152	0.042	0.029	0.116
10	Maximum supply per head per day.	37.34	46.59	38.96	44.47	40.40	18.01	26.68	16.45	12.76	8.92	26.98	18.42	16.27	43.83	21.11	6.81	9.32	2.10
11	Average supply per head per day.	30.14	38.62	36.95	38.24	34.29	15.99	20.61	10.86	8.84	6.43	24.97	15.77	14.71	26.29	16.86	6.18	6.67	1.90
12	Total lift (average) .. Feet..	188.78	228.04	176.31	140.80	154.94	141.74	1,304.05	460.01	Gravity supply.	223.52	Gravity supply.	174.10	140.56	175.53	130.00	111.18	202.72	135.00
13	Quantity supplied during year in million foot gallons.	386,191	505,437	471,922	425,399	407,248	64,293	149,975	31,584	..	13,116	..	42,715	22,645	15,198	7,199	1,693	2,172	2,203
14	Fuel consumed .. Tons..	(a) 4,152.46	..	(b) 10,953.14	..	..	..	..	..	..	(c) 497.80	..	..	(d) 66.30	..	(e) 19.94	(f) 4.63	(g) 3.59	..
15	Fuel consumption per million foot gallons.	24.08	..	51.99	..	..	..	..	..	..	85.02	..	..	6.56	..	6.20	6.12	3.70	..
16	Cost of fuel per ton .. Rupees	15.94	..	13.72	..	..	..	..	..	..	13.35	..	..	140.00	..	1.57.08	150.00	145.46	..

17	Cost of establishment per million foot gallons.	1.78	1.87	2.02	2.18	1.77	4.34	1.50	3.45	..	4.49	..	4.84	9.54	8.91	5.61	35.93	12.10	13.15
18	Cost of fuel per million foot gallon.	2.94	4.82	4.99	4.60	7.08	..	4.23	16.12	..	6.02	..	15.86	5.63	17.42	5.89	5.94	4.82	22.22
19	Cost of oil and waste per million foot gallon.	0.37	0.06	0.07	0.02	..§	0.15	0.01	0.03	..	0.27	..	0.07	1.34	0.11	4.04	3.06	2.03	0.11
20	Cost of repairs to machinery per million foot gallons.	..*	0.03	0.03	0.06	0.18	0.22	0.24	0.64	..	0.25	..	0.05	0.43	0.37	1.81	6.22	0.04	0.40
21	Cost of other charges per million foot gallons.	1.86	0.81	0.79	4.21	2.24	3.40	1.62	1.53	..	7.78	..	0.29	2.19	1.63	1.23	9.02	4.31	2.78
22	Total charges per million foot gallons.	6.95	7.59	7.95	11.07	11.27	8.11	7.65	21.82	..	13.81	..	21.11	19.18	28.44	18.53	60.17	23.30	38.66
23	Maintenance charges per thousand gallons supplied.	1.31	1.73	1.40	1.56	1.75	1.15	9.98	10.04	1.34	4.20	0.35	3.67	2.70	4.99	2.41	6.69	4.72	5.22
24	Interest and sinking fund charges per thousand gallons supplied.	0.52	1.14	0.54	0.18	0.89	..	4.01	5.96	1.87	..	0.99	1.20	1.13	2.11	..	..	..	22.19
25	Total (maintenance and interest and sinking fund per thousand gallons supplied).	1.83	2.87	1.94	1.74	2.64	1.15	13.99	16.00	3.21	4.20	1.34	4.87	3.83	7.10	2.41	6.69	4.72	27.41
26	Maintenance charges in Rupees. thousand.	167.84	239.90	234.52	294.34	287.01	32.60	71.71	43.08	9.23	15.42	7.61	56.35	27.14	27.01	8.36	6.37	3.16	5.32
27	Interest and sinking fund charges in thousand.	66.57	157.40	90.25	34.52	146.94	..	28.83	25.59	12.88	..	21.79	18.35	11.43	11.43	..	..	..	22.64
28	Total income in thousand	293.72	414.30	310.16	515.41	540.01	32.87	84.01	92.94	12.44	15.95	23.26	68.21	42.05	58.41	7.27	9.07	..	..
29	Profit or loss on maintenance in thousand.	+125.83	+174.40	+75.64	+221.07	+253.00	+0.27	+12.30	+49.86	+3.21	+0.53	+20.65	+11.86	+14.91	+31.40	-1.09	+2.70	..	..
30	Profit or loss on maintenance and interest and sinking fund in thousand.	+59.31	+17.00	-14.61	+186.55	+106.06	+0.27	-16.53	+24.27	-9.67	+0.53	-1.14	-6.49	+3.48	+19.97	-1.09	+2.70	..	..
31	Profit or deficit percentage on total cost of works.	+1.67	+0.38	-0.33	+5.14	+1.65	+0.03	-1.29	+2.31	-2.02	+0.27	-0.15	-1.04	+0.35	+4.13	-0.76	+3.79	..	..

* Only Rs. 98 were spent. Cost per million foot gallons works out to 0.004 annas.
§ Only Rs. 69 were spent. Cost per million foot gallons works out to 0.003 annas.
(a) Coal, fuel oil and Electrical energy converted into coal and fuel oil. (d) Fuel oil.
(b) Coal and Electrical energy converted into coal. (e) Do.
(c) Coal. (f) Do.
(g) Do.

APPENDIX No. IX.

HYDRO-ELECTRIC SUPPLY.

1930-31.

Particulars.					Mussoorie.	Naini Tal.
1.	Total units generated	..	..	..	3,520,048	1,054,510
2.	Maximum units for any one day	..	..	..	11,225	3,723
3.	Average load K. W.	..	..	..	383.00	157.50
4.	Power Factor—					
	Maximum	..	..	..	0.95	0.94
	Minimum	..	..	..	0.75	0.24
5.	Load Factor—					
	Maximum (monthly)	..	..	..	0.45	0.45
	Average	..	..	..
	Minimum (monthly)	..	..	..
6.	Generating Volts—					
	Maximum	..	..	..	7,000	3,500
	Minimum	..	..	..	6,600	3,500
7.	Total hours of running	..	..	..	10,803.75	8,739.76
8.	Total cubic feet of water used	..	..	..	191,538,780	37,761,020
9.	Maximum quantity used in any month, cubic feet	..	..	..	18,708,120	3,488,800
10.	Minimum quantity used in any month, cubic feet	..	..	..	8,545,800	2,687,940
11.	Average rate of discharge, cubic feet per diem	..	..	..	524,763	103,455
12.	Maximum rate of discharge of pipe line	..	..	..
	No. 1, cubic feet per second	..	..	..	8.30	Both the lines worked together.
	No. 2, cubic feet per second	..	..	..	8.30	
13.	Minimum rate of discharge of pipe line	..	..	..
	No. 1, cubic feet per second	..	..	..	7.30	
	No. 2, cubic feet per second	..	..	..	7.30	
14.	Average intake level	..	..	..		8.97
15.	Maximum intake level	..	..	..	4,491	11.70
16.	Minimum intake level	..	..	..		6.25
17.	Total rainfall for the year, inches	..	..	..	101.40	107.82
18.	Total cubic feet overflow intake weir (million cubic feet) (Naini Tal only).	..	..	..	..	101.64
19.	Maximum recorded rain fall for 24 hours, inches	..	..	..	4.40	5.40

APPENDIX No. IX(A).

ELECTRIC SUPPLY.

1930-31.

Particulars.								Hardwar.
1. Total units received	..	..	..	..	..	..	..	389,602
2. Maximum units for any one day	..	..	..	..	..	..	..	1,275
3. Average load K. W.	..	..	..	..	..	..	..	52
4. Power factor—								
Maximum	..	..	..	..	..	..	..	0·85
Minimum	..	..	..	..	..	..	..	0·80
5. Load Factor—								
Maximum (monthly)	..	..	..	..	..	..	..	Nil.
Average	..	..	..	..	..	..	..	Nil.
Minimum (monthly)	..	..	..	..	..	..	..	Nil.
6. Receiving Volts—								
Maximum	..	..	..	..	..	..	..	430
Minimum	..	..	..	..	..	..	..	380

APPENDIX No. X.

Statement showing current consumed, rate charged and revenue derived.
1930-31.

	Mussoorie.			Naini Tal.			Hardwar.		
	Units.	Rate.	Rs.	Units.	Rate.	Rs.	Units.	Rate.	Rs.
1. For Municipal purposes—									
Public lighting..	{ (a) 162,421 (b) 7,482 (c) 177,844 (d) 62,085	{ Two annas Contract rate	{ *48,468 28,268	129,153	Lump sum	21,000	61,900	Three annas and seven pies.	13,443
W.S. pumping	641,826	One anna	40,114	1173,160	Three annas	†32,467	127,559	Two annas..	16,551
Other purposes	461,581	..	..	121,777	..	3,474	2,955	Three annas and seven pies.	639
2. Sold by meter—									
Lighting	{ 229,264 (b) 347,549	{ Six annas Six annas	{ 85,974 1,30,331	201,703	Eight annas	78,448	{ †48,344 **44,912	Six annas.. Four annas	16,493 11,324
Heating	{ 100,592 (b) 514,192	{ One anna One anna	{ 6,287 32,137	120,544	One anna four pies..	7,498	..	..	..
Power	..	..	..	3,846	Four annas	722	76,437	One anna and six pies	7,407
3. Recoveries on rated premises—	{ 26,195 (b) 31,957	{ Contract rate Ditto	{ 9,823 11,984	26,784	Rupees two per mensem per lamp.	7,594	15,650	..	4,080
4. Other receipts	{	{	{ 3,627 (b) 30,178	891	..	5,834	..	..	1,786
5. Meter rent and miscellaneous.	{	{	{ 5,915 (b) 10,421	..	..	10,250	..	..	3,329
6. Total units sold and receipts	†2,301,357	..	4,38,522	\$667,663	..	1,66,787	372,757	..	75,052

(a) For Landour.
(b) For Dehra Dun.
(c) For Dehra Dun road lighting.

*Credit.
†Includes Rs. 650 for units consumed for lake side plant.
‡Does not include 461,581 units for other purposes.
§Does not include 110,200 units for other purposes allowed free of charge.
||169,703 units for main pumping and 3,457 units for lake side.
¶Private.
**Railway.

APPENDIX No. XI.

Statement showing number of connexions.
1930-31.

Particulars.	Mussooree.		Naini Tal.		Hardwar.	
	Number.	K. W.	Number.	K. W.	Number.	K. W.
1. Private connexions at close of preceding year.	(a) 4,578	..	1,408	..	467	..
2. Connexions made during the year.	(b) 287	..	86	..	33	..
3. Metered connexions existing on March 31, 1931.	(c) 2,331	..	789	..	258	..
4. Municipal lamps existing on March 31, 1931.	(d) 1,802	..	540	..	518	..
5. Heating points connected on March 31, 1931.	(e) 501	..	227	..	..	..
6. Total K. W. connected on March 31, 1931.	..	4,280	..	1,630	..	324
7. Peak load for the year ..	..	H. E. 942 Diesel. 630	..	315	..	95
8. Diversity factor per cent.	..	45%	..	19.32%	..	..

NOTE.—Connexions for Dehra Dun included:—

(a) 2,612.

(b) 171.

(c) 1,338.

(d) 988 for Dehra Dun and 60 for Landour.

(e) Power points.

APPENDIX No. XII.

*Hydro-electric supply—Annual maintenance account.
1930-31.*

Particulars of charges.						Mussoorie.	Naini Tal.
<i>I.—Staff Charges—</i>							
(a) Direction	..	..	..	..	..	28,361	5,875
(b) Office establishment	..	..	..	..	..	19,760	11,219
(c) Power station staff	..	..	..	..	..	20,826	3,638
(d) Sub-station staff	..	..	..	..	..	6,303	1,310
(e) Pipe line staff	..	..	..	..	..	..	1,162
(f) Overhead line staff	..	..	..	..	..	14,880	4,837
(g) Auxiliary pump	..	..	..	..	..	..	250
(h) Contingencies	..	..	..	..	..	6,796	3,858
<i>II.—Materials—</i>							
(a) Oils	..	..	..	..	..	33,247	1,797
(b) Lubricants	..	..	..	..	..
(c) Waste	..	..	..	..	..
(d) Buildings	..	..	..	..	..
<i>III.—Repairs—</i>							
(a) Machinery	..	..	..	..	..	*9,808	3,662
(b) Pipe line	..	..	..	..	..	4,201	378
(c) Overhead line	..	..	..	..	..	13,306	6,509
(d) Buildings	..	..	..	..	..	3,794	201
IV.—Rents	..	..	..	..	..	3,280	511
V.—Printing	..	..	..	..	..	999	184
VI.—Stationery	..	..	..	..	..	499	495
VII.—Insurance	..	..	..	..	..	1,216	182
VIII.—Total maintenance charges	..	..	..	..	..	1,67,281	46,019
IX.—Interest and sinking fund charges	..	..	..	..	..	1,83,415	1,42,818
X.—Total annual charges	..	..	..	..	..	3,50,696	1,88,837
XI.—Total units generated	..	..	..	..	..	3,520,048	1,054,510
XII.—Total units sold	..	..	..	..	..	2,301,357	667,668
XIII.—Cost per units generated	Annas	..	..	..	..	1.59	2.86
XIV.—Cost per unit sold	Annas	..	..	..	..	2.44	4.52

*Includes Rs. 4,997 for lamps and Rs. 3,490 for meters.

APPENDIX No. XII (A).

ELECTRIC SUPPLY.

Annual Maintenance Account.

1930-31.

Particulars of charges.							Hardwar.
							Rs.
<i>I.—Staff charges.—</i>							
(a) Direction	..	..	..	..	..	..	2,930
(b) Office establishment	..	..	..	..	..	..	1,516
(c) Sub-station staff	..	..	..	..	..	..	1,430
(d) Overhead line staff	..	..	..	..	..	..	2,783
(e) Contingencies	..	..	..	..	..	..	..
II.—Cost of electric energy purchased during the year from Irrigation department							44,465
<i>III.—Materials.—</i>							
(a) Oils	..	..	..	..	..	..	..
(b) Lubricants	..	..	..	..	..	..	..
(c) Waste	..	..	..	..	..	..	..
(d) Buildings	..	..	..	..	..	..	..
<i>IV.—Repairs.—</i>							
(a) Machinery	..	..	..	..	..	..	..
(b) Overhead line including cost of bulbs	..	..	..	..	..	..	1,410
(c) Buildings	..	..	..	..	..	..	285
V.—Rents	..	..	..	..	..	..	60
VI.—Printing	..	..	..	..	..	..	225
VII.—Stationery	..	..	..	..	..	..	140
VIII.—Insurance	..	..	..	..	..	..	..
IX.—Miscellaneous	{		(a) Service	..	..	..	1,304
			(b) Capital outlay	..	..	..	1,669
X.—Total maintenance charges	..	..	..	..	..	..	58,217
XI.—Interest and Sinking Fund charges	..	..	..	..	..	..	14,752
XII.—Total annual charges	..	..	..	..	..	..	72,969
XIII.—Total receipts during the year	..	..	..	..	..	..	75,052
XIV.—Total units purchased	..	..	..	..	..	..	3,89,602
XV.—Total units sold	..	..	..	..	..	..	3,72,757
XVI.—Profit during the year	..	..	..	..	..	..	2,083
XVII.—Total loss in transformer and transmission, etc.	..	..	..	..	..	..	16,845
XVIII.—Cost per unit purchased	..	..	..	..	..	..	3.00 Annas.
XIX.—Cost per unit sold	..	..	..	..	..	..	3.13 Annas.

APPENDIX No. XIII.

A.—LIST OF PROJECTS FINALLY SANCTIONED DURING THE YEAR 1930-31.

I.—PROVINCIAL WORKS.

	Rs.
(a) <i>Fair projects</i> —	
1. Allahabad Drainage of an insanitary ditch near district jail ..	11,208
2. Allahabad Magh Mela electrification for the year 1930-31 ..	11,278
3. Allahabad Magh Mela water supply, 1931 ..	13,682
4. Allahabad Magh Mela water supply estimate of cost of land required for the construction of an additional well ..	289
5. Allahabad Magh Mela water-supply, maintenance for the year 1931 ..	1,302
6. Cawnpore Agricultural College water supply, drainage and sewage disposal by activated sludge system ..	1,18,516
7. Dewa (Bara Banki) fair water supply ..	57,859
8. Etawah Kutchery compound, 5 ft. masonry well ..	3,786
9. Garhmuktesar, special repairs to the well near the Police Station ..	158
10. Lucknow, anti-malarial and drainage works, Ghaziuddin Hyder canal, maintenance— ..	14,000
11. Lucknow, sanitary fittings in the residence of Electrician, Government House ..	1,054
12. Lucknow, sanitary fittings in the residence of Garage Superintendent, Government House ..	1,484
13. Lucknow, sanitary fittings in the quarters of Indian Aides de Camp, Government House ..	773
14. Lucknow, sanitary fittings in the residence of Stenographer, Government House ..	1,517
15. Lucknow, sanitary fittings in the residence of Hon'ble President, Legislative Council ..	4,305
16. Lucknow, overflow jail water supply ..	57,510
17. Piran Kaliar (Roorkee), drainage improvements ..	3,724
Total ..	3,02,445
(b) <i>Preliminary proposals</i> :—	
Nil.	
(c) <i>Forecasts of costs finally approved</i> —	
1. Agra Water Supply to Police lines, Alternative No. I..	13,000
2. Ditto ditto No. II ..	16,200
3. Bareilly Mental Hospital, 5" tube well and pump house ..	7,260
4. Shakumber Devi Fair (Saharanpur) water supply ..	21,200
Total ..	57,660

II—DEPOSIT WORKS.

	Rs.
(a) <i>Fair projects</i> :—	
1. Agra, extension to Raw Water Pumping Plant, additions and alterations ..	4,871
2. Aligarh Water Supply (2nd revised) ..	5,63,245
3. Benares Kashi Tirath Sudhar Trust three 6" trial bores along the Ganges ..	3,831
4. Brindaban (Muttra), Infectious Diseases Hospital..	44,636
5. Brindaban Water Supply, 3rd trial bore ..	4,646
5A. Do. supplementary for 4" tube well ..	3,255
6. Choharpur (Dehra Dun), water-supply, cleaning and test pumping the well and replacing the existing pump ..	7,062
7. Fatehpur Sikri Mela Water Supply ..	14,800
8. Haldwani Water Supply Improvement, replacement of existing 4" main by 6" ..	5,943
9. Hathras Water Supply tube well nos. 3, 4 and 5 (revised) ..	34,800
10. Kanauj Drainage "E" block ..	15,097
11. Khurja Water Supply and flushing scheme ..	1,70,919
First instalment ..	6,387
12. Lucknow Water Supply reorganisation. New filtration plant—running of filters for three months ..	226
13. Muttra Water Supply, additional tube well no. 5 (2nd revised) ..	55,311
14. Muzaffarnagar New Mandi Drainage, addition and alterations ..	1,43,000
15. Rikhi Kesh (Dehra Dun) Infectious Diseases Hospital ..	33,039
16. Saharanpur Drainage, first instalment ..	2,05,165
17. Unao Water Supply tube well no. 3. (Revised) ..	12,855
Total ..	13,28,983

APPENDIX—XIII (*continued*).*A.—List of projects finally sanctioned during the year 1930-31.*

	Rs.
(b) <i>Preliminary proposals—</i>	
1. Hardwar. Providing a reinforced concrete bridge and training of Lalta Rao	1,12,000
Total ..	1,12,000
(c) <i>Forecasts of costs—</i>	
1. Chandausi Water Supply	2,21,700
2. Haldwani Banbhulpur drainage	1,23,198
3. Hardwar. Constructing a laboratory for infectious diseases hospital ..	11,100
4. Kosi Drainage	62,000
5. Moghal Sarai Drainage	42,424
6. Sikandrabad Drainage, main drain no. I ..	41,830
Ditto ditto II	37,000
Total ..	5,42,222

B.—List of projects submitted but not sanctioned during the year 1930-31.

I—PROVINCIAL WORKS.

	Rs.
(a) <i>Fair projects.—</i>	
1. Allahabad Alfred Park Water Supply	47,276
2. Bareilly Mental hospital tube well	6,832
3. Lucknow Government House, residences, sanitary fittings (revised) ..	4,829
4. Mainpuri, Public Works department, inspection house tube well ..	4,548
5. Meerut, New Central Jail tube well	12,452
6. Naini Tal Secretariat clerks quarters, Sanitary fittings	10,041
Total ..	85,978
(b) <i>Preliminary proposals.—</i>	
Nil.	
(c)— <i>Forecasts of costs.—</i>	
1. Agra Civil Lines area, water supply 5" dia., slotted pipe tube well ..	10,000
2. Bahraich District Jail tube wells	3,500
3. Fatehgarh Central Jail two tube wells	6,500
4. Lucknow Banderiabagh, residence of the Secretaries—sanitary fittings in—	23,090
Total ..	46,090

II—DEPOSIT WORKS.

	Rs.
(a) <i>Fair projects.—</i>	
1. Bahraich Water Supply	3,15,204
2. Bahraich Syed Salar Fair water supply	59,562
3. Bahraich and Durgah Syed Salar Water Supply two tube wells ..	27,045
4. Badaun Drainage (revised)	89,369
5. Banbhulpura (Haldwani) Drainage 1st instalment	42,120
6. Dehra Dun Water Supply, improvements to Kolukhet Rajpur, Dehra Dun pipe line	16,504
7. Fyzabad Water Supply, pumping station, Venturi meter removing to new site and construction	1,747
8. Gorakhpur Drainage	5,05,076
9. Unao Water Supply, tube well no. 3 (11 revised estimate)	13,932
Total ..	10,70,609
(b) <i>Preliminary proposals.—</i>	
1. Bareilly Slaughter House city improvement area drainage	1,16,197
Total ..	1,16,197
(c) <i>Forecasts of costs.—</i>	
1. Agra Dayal Bag'a Tube Well air-lift-cum-centrifugal pumping plant ..	11,028
2. Aligarh East Indian Railways, tube well for one hundred gallons per minute	8,000
3. Ditto for 200 gallon per minute	11,000
4. Bilsa (Badaun) Drainage	54,164
5. Gonda Water Supply	1,33,793
6. Najibabad Water Supply	1,35,400
Total ..	4,06,380

APPENDIX No. XIII (continued).

C.—List of projects under preparation with approximate amount (1930-31).

I.—PROVINCIAL.

				Rs.
<i>(a) Fair projects—</i>				
1.	Fatehgarh New Police Lines Tube Well	..	..	2,350
2.	Meerut Central Jail Drainage	..	..	2,15,139
3.	Meerut Central Jail Water supply (revision)	..	..	2,15,995
	Total	..	..	4,33,484
<i>(b) Preliminary proposals—</i>				
	Nil			
<i>(c) Forecasts of costs—</i>				
1.	Budaun District Jail Water supply	..	..	10,000
	Total	..	..	10,000

II.—DEPOSITS.

<i>(a) Fair projects—</i>				
1.	Aligarh Water supply Extension, Tube Wells nos. 5, 6 and 7	..	..	48,104
	Budaun Drainage Extension	..	..	25,000
	Cawnpore Sewage disposal	..	..	5,07,000
4.	Ghazipur Water Supply, Trial Tube Well	..	..	19,770
5.	Hardwar Improvements to Har-ki-pairi	..	..	2,00,000
6.	Jaunpur Water supply	..	..	4,00,000
7.	Moghal Sarai Drainage	..	..	42,000
8.	Muzaffarnagar Flushing Scheme	..	..	41,649
	Total	..	..	12,83,523
<i>(b) Preliminary proposal—</i>				
1.	Cawnpore Drainage, Part VI	..	..	2,40,000
2.	Cawnpore Sewage, Pumping Station at Permat Re-organization	..	..	75,000
	Total	..	..	3,15,000
<i>(c) Forecasts of costs—</i>				
1.	Bahraich Drainage Extension	..	..	90,000
2.	Ghazipur Water supply	..	..	2,00,000
3.	Gola Gokaranrath Water supply Extension	..	..	10,000
4.	Hamirpur Drainage	..	..	20,000
5.	Ramnagar Drainage	..	..	50,000
	Total	..	..	3,70,000

D.—List of projects delayed for want of staff.

1.	Agra Drainage, 1st instalment	..	..	48,104
2.	Aligarh Water supply Extension, Tube Wells, nos. 5, 6 and 7	..	..	2,40,000
3.	Cawnpore Drainage, Part VI	..	..	75,000
4.	Cawnpore Sewage Pumping Station at Permat Re-organization	..	..	19,770
5.	Ghazipur Water supply Trial Tube Well	..	..	7,00,000
6.	Hamirpur Drainage	..	..	5,00,000
7.	Jhansi Survey and Drainage	..	..	..
8.	Lucknow Survey of defects of Drainage System and preparation of estimate for their removal	..	..	..
9.	Lucknow Water supply Re-organization underground reservoir	..	..	..
10.	Meerut Drainage first instalment	..	..	..
11.	Sultanpur Water-supply	..	..	1,00,000

Forecasts.

1. Agra Water Works, pressure survey of pipe lines
2. Fatehpur Sikri Water supply providing additional standposts.
3. Hardwar Town Planning of Bhopatwala.
4. Meerut, Improvements of Water supply in the civil lines.

Completion drawing of—

1. Allahabad Magh Mela Tube Well and Pumping Plants.
2. Fyzabad Water supply.
3. Lucknow Government House Unfiltered Water supply.
4. Lucknow Sewage Pumping station.

APPENDIX No. XIV.

Revenue derived from Sewage Farms during the year 1930-31.

	Agra.	Allahabad.	Dehra Dun.	Lucknow.	Muttra.
1. Area under cultivation in acres ..	115	241	4.19	*685.62	55
2. Total rent realized from cultivation- Rs.	8,108	23,317	680	†9,319	4,187
3. Average rent per acre per annum, Rs.	70.50	96.75	62.29	37.00	76.20
4. Quantity of sewage treated in million gallons	Not available.	706.26	5.84	} Not supplied as no meter has been fixed.	92.67
5. Average quantity of sewage consumed per acre per diem in gallons.	Not available.	8,028.5	3,822		4,616
6. Expenditure incurred on the maintenance of the farms. Rs.	2,351	5,005	Nil.	4,107	1,703
7. Revenue derived Rs.	8,108	†24,699	680	6,682	4,187
8. Profit Rs.	5,257	19,694	680	2,575	2,479
9. Loss Rs.	Nil.	Nil.	Nil.	Nil.	Nil.

*Only 178 acres treated with sullage.

†Only Rs. 6,682 were realized as rent from area supplied with sullage.

‡Includes Rs. 8,000 cost of sullage supplied to Allahabad Agriculture Institute.

APPENDIX No. XV.

Statement showing expenditure on construction works carried out by the Engineering branch of the Public Health department, during 1930-31.

Serial number.	Name of works.	Estimated cost.	Total expenditure up to end of March 1930.	Expenditure incurred during the year.
		Rs.	Rs.	Rs.
<i>I.—Provincial Works.</i>				
1	Agra Dayal Bagh Tube Well	13,329	9,574	35
2	Allahabad Magh Mela pumping from tube well ..	1,043	..	342
3	Allahabad Magh Mela pumping plant, maintenance 1930-31.	590	..	566
4	Allahabad Kumbh Mela Water Supply new tube well	17,988	15,990	82
5	Allahabad Magh Mela electrification	11,278	..	10,360
6	Allahabad Magh Mela Water Supply for 1930-31 ..	13,682	..	19,391
7	Ditto maintenance	1,302	..	1,234
8	Allahabad District Jail, insanitary ditch drainage near—	11,203	..	11,159
9	Cawnpore Well Boring Operations, division, demonstration tube well.	933	759	116
10	Debi Patan (Gonda) tube well	6,867	92	5,446
11	Etawah kutchery combined 5' masonry well ..	3,786	..	1,129
12	Lucknow anti-malarial and drainage Works, Ghazi-ud-din Haider canal maintenance.	14,000	..	11,608
13	Lucknow overflow Jail Water Supply	57,510	..	53,721
14	Piran Kaliar Water Supply	39,837	5,997	9,425
15	Piran Kaliar drainage improvement	3,724	..	3,619
	Total ..			1,28,305
<i>II.—Deposit Works.</i>				
1	Agra extension to Raw water pumping plant ..	90,557	67,623	8,225
2	Agra New Mechanical filtration plant	2,84,250	1,95,911	3,136
3	Ajodhya (Fyzabad) two tube wells	37,112	13,605	515
4	Aligarh Water Supply	5,63,245	2,83,924	1,66,660
5	Almora Water Supply	1,75,342	6,504	1,40,415
6	Arbhulpura (Haldwani) drainage scheme, 1st instalment.	42,120	..	500
7	Bareilly anti-malarial drainage outfall	10,347	..	319
8	Benares water supply extension reorganization ..	5,12,255	4,45,703	60,706
9	Bhimtal (Naini Tal) Water Supply, section I ..	6,400	6,017	147
10	Ditto ditto II	16,797	..	175
11	Brindaban Infectious Diseases Hospital	44,636	..	1,070
12	Brindaban Water Supply, experimental tube well ..	9,445	3,826	67
13	Brindaban Water Supply, third tube well	7,901	..	2,961
14	Budaun drainage	89,369	3,055	52,175
15	Dehra Dun water softening and chlorinating plant water supply.	64,851	50,056	3,547
16	Fatehpur Sikri Water Supply	43,976	41,692	2,444
17	Fyzabad water Supply extension	50,096	..	37
18	Haldwani water Supply improvements	5,943	365	5,535
19	Hathras water Supply, 12' strainerless tube well no. 2 ..	23,242	14,150	15
20	Hathras tube wells nos. 3, 4 and 5	34,800	517	10,880
21	Jhansi Chirgaon Drainage Improvement	34,388	93	29,954
22	Kaimganj Drainage	60,415	52,750	181
23	Khurja Water Supply, trial tube well	20,535	16,704	2,510
24	Khurja Electric Supply	1,86,224	87,020	61,510
25	Kosi Water Supply	1,02,132	70,316	6
26	Lucknow water Supply, additional mechanical, water filtration, sterilisation plant.	3,28,353	2,34,527	70,984
27	Lucknow Water Supply, reorganization, revision of distribution system.	9,90,140	92,009	25,546
28	Moradabad flushing improvements	11,504	7,024	2,317
29	Muttra laying Sewage Farm and Irrigation Guls ..	7,922	3,953	2,632
30	Muttra Sewage Disposal Scheme	1,83,301	1,51,914	795
31	Muttra Water Supply, masonry tube well	26,984	921	12,616
32	Muttra Water Supply, additional tube well no. 5 ..	55,311	2,907	15,261
33	Muzaffarnagar New Mandi Drainage	4,63,447	44,539	56,531
34	Rikhikesh Infectious Diseases Hospital	33,039	..	1,625
35	Unao Water Supply, additional pumping plant ..	31,409	827	55
36	Unao Drainage	1,89,316	..	6,472
37	Unao Water Supply, tube well no. 3	12,855	338	6,078
	Total ..	..	..	7,54,602

APPENDICES

to the

Report of the Director of Public Health,
United Provinces.

Annual report of the Board of Public Health, United Provinces, for the year ending March 31, 1931.

DURING the year under report the office of the President was held by the following officers :—

Mr. (now Sir) R. Oakden, C.S.I., O.B.E., I.C.S., Member, Board of Revenue.	From April 1, 1930 to December 15, 1930.
Mr. M. Keane, C.S.I., C.I.E., I.C.S., Member, Board of Revenue.	From December 16, 1930 to March 31, 1931.

At a meeting held on November 15, 1930, the Board unanimously expressed their regret at the departure of Mr. Oakden and thanked him for his courtesy and for the efficient way in which he had presided over their deliberations.

I worked as Secretary to the Board throughout the year in addition to the duties of the Head Assistant to the Director of Public Health.

2. The following members whose term of office had expired were reappointed by Government for a term of two years:—

(1) Major D. R. Ranjit Singh, O.B.E. (late) I.M.S., Allahabad	} From March 14, 1931.
(2) Rai Bahadur Dr. B. N. Vyas, M.B., Lucknow	}

A list of the outgoing and incoming members is appended:—

Outgoing members.	Incoming members.
Saiyid Tufail Ahmad Sahib, Post Office Man- glaur (district Saharan- pur).	Mr. Zahur Ahmad, M.L.C., From April Bar.-at-Law, Allahabad. 8, 1930.
M. Muhammad Matin-ud- din Sahib, B.A., LL.B., Advocate, Lucknow.	Khan Sahib Hafiz Gha- zanfarullah, M.L.C., Moradabad.
Pandit Nanak Chand Sahib, M.A., LL.B., Ad- vocate, Allahabad.	Mr. Kamta Prasad Kac- ker, B.A., LL.B., M.L.C., Advocate, and Chair- man, Municipal Board, Allahabad.

} From February
21, 1931.

3. The Board passed a resolution placing on record its great regret at the death (which occurred at Lucknow on November 1, 1930, after a brief illness) of Mr. P. H. Tillard, who as Chief Engineer, Public Works Department, Buildings and Roads Branch, had been its member for over four years. His wide knowledge and experience were a valuable asset in the deliberations of the Board.

4. Six meetings of the Board were held—four at Lucknow and two at Naini Tal.

5. The total amount placed by Government at the disposal of the Board of Public Health for expenditure on public health works during 1930-31 amounted to Rs. 5,01,121 and was made up as under :—

	Rs.
(1) Grant for special assistance to pilgrim centres (re- curring)	69,750
(2) Grant for urban sanitation (recurring).. .. .	1,50,000
(3) Grant for rural sanitation and minor sanitary works (recurring)	2,40,700

	Rs.
(4) Contribution to municipal boards (non-recurring) ..	40,671
The amount of Rs. 40,671 was paid to the municipal board of Almora for its water supply scheme.	

Total of (1), (2), (3) and (4)	..	5,01,121
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The grant for special assistance to pilgrim centres and the grant for rural sanitation and minor sanitary works include two recurring annual grants of Rs. 250 and Rs. 700, respectively, the first of which is paid to Dalmau in the Rae Bareilly district as a pilgrim centre and the second to the town areas in the Muzaffarnagar district for minor sanitary works. These grants were transferred by Government from the head "41—Civil Works—Grants—C—Other local bodies" to the head "33—Public Health—B—Grants for public health purposes" for the first time from the year under report and will be placed annually at the disposal of this Board for distribution as stated above.

6. The allotments sanctioned by the Board of Public Health during the year under report were :—

(a) Special assistance to pilgrim centres=Rs. 69,750.

		Rs.
To the Assistant Director of Public Health, Provincial Hygiene Institute, United Provinces.	For taking cinema films for exhibition purposes at fairs, etc.	12,000
Dalmau town area (district Rae Bareilly).	Given as a pilgrim centre as ordered by Government ..	250
Piran Kaliar fair (district Saharanpur).	For sanitary arrangements and water supply at the fair.	3,797
Garhmuktesar (district Meerut).	For repairs of a well near the Police station.	58
Rikhikesh (district Dehra Dun).	Towards the construction of an infectious diseases hospital	8,121
Gola Gokarannath (district Kheri).	Further grant towards the completion of the Gola tank feeder scheme ..	946
Brindaban municipality	Towards the construction of an infectious diseases hospital	27,378
Fatehpur-Sikri notified area (district Agra).	For mela water supply scheme for Dargah Sheikh Saleim Chishti ..	14,800
	Re-appropriated to head "D—Works" ..	2,400
	Total ..	69,750

(b) Urban Sanitation (Reserve)=Rs. 1,50,000.

		Rs.
Brindaban municipality	For survey of the Jumna river	288
Kanauj municipality ..	Refund on account of the excess amount deposited by the municipal board, Kanauj, into the treasury by mistake to the credit of the Board of Public Health	249
Muttra	For maintaining a sewage farm	1,369
Dehra Dun ..	For an infectious diseases hospital	11,655

		Rs.
Fyzabad municipality ..	For an experimental tube well	3,000
Najibabad municipality	For sinking tube wells ..	2,476
Bareilly municipality ..	For anti-malarial works ..	11,500
Budaun municipality ..	For drainage scheme ..	30,824
Benares	To meet the preliminary charges of a river survey ..	5,000
Cawnpore	For sinking a tube well for demonstration purposes in the compound of the office of the Executive Engineer, Well Boring Operations Division, Cawnpore (Re-grant)	118
Rikhikesh (district Dehra Dun).	For an infectious diseases hospital	11,879
Allahabad municipality	Renovation of clear water reservoirs at Khusrubagh ..	3,955
Syed Salar fair, Bahraich	Further grant to cover the full amount of fee of the Superintending Engineer, Public Health department, for the preparation of the fair project for the water supply scheme at Syed Salar fair	122
Brindaban ..	For an infectious diseases hospital	17,258
Ditto ..	Further grant towards the third trial tube well ..	1,800
Nagina municipality ..	For the construction of parapet walls on a number of wells in the municipality ..	377
Kanauj municipality ..	For drainage extension ..	8,548
Lucknow municipality ..	For anti-malarial works ..	5,636
Fyzabad municipality ..	For the second tube well at Ajodhya	10,500
Lucknow	To the Anti-Tuberculosis League	500
Agra	For the tube well at Dayalbagh (further grant) ..	35
	Re-appropriated to head "D—Works" ..	25,608
	Lapsed to Government ..	707
	Total ..	<u>1,53,404</u>

NOTES.—(1) Rupees 3,404 were re-appropriated from head "Rural sanitation and minor sanitary works".

(2) Under this head as well as under head (c) annas and pies have been neglected and amounts have been shown in full rupees.

(c) Rural Sanitation and minor sanitary works=Rs. 2,40,700.

		Rs.
Kirthal (district Meerut)	For the construction of pucca drains round a number of wells	2,988
District board, Bahraich	For hand pumped well supplies in rural areas ..	10,800
Bulandshahr, Moradabad, Muzaffarnagar, Kheri and Muttra.	For experiments with cinchonization in a few selected villages	1,155

		Rs.
To District Magistrates..	For small public health works in rural areas ..	1,58,582
Ditto ..	Re-grants made to the extent of the amounts which lapsed to Government on March 31, 1930, to complete small public health works in progress in rural areas	9,797
Town areas in the Muzaffarnagar district.	Given as a grant as ordered by Government ..	700
Bhowali notified area (district Naini Tal).	For a room fitted with arrangements for boiling and destroying sputa of consumptives visiting Bhowali	500
Bhim Tal notified area (district Naini Tal).	For water supply scheme, Part II)	16,797
To Deputy Commissioner, Almora.	For drainage of the fair area in Bageswar town ..	473
Haldwani notified area (district Naini Tal).	For Banbhulpura drainage scheme	21,060
Rikhikesh notified area (district Dehra Dun).	For infectious diseases hospital	13,039
	Re-appropriated to head "Urban Sanitation" ..	3,404
	Lapsed to Government ..	1,405
	Total ..	<u>2,40,700</u>

(d) D—Works=Rs. 28,008.

The amount under this head is made up as follows :—

	Rs.
Re-appropriated from head "Special assistance to pilgrim centres"	2,400
Re-appropriated from head "Urban Sanitation" ..	25,608
Total ..	<u>28,008</u>

	Rs.
Allahabad For constructing a drain behind the Allahabad district jail	11,208
Piran Kaliar (district Saharanpur). For water pumping plant ..	11,100
Debi Patan fair (district Gonda). For a trial tube well ..	5,700
Total ..	<hr/> 28,008

NOTE.—As advised by the Pay and Accounts Officer, Public Works department, Government have ordered that funds for provincial works or works of experimental nature carried out by the Public Health Engineering department as Government work from funds allotted by the Board of Public Health should be shown under the minor head "D—Works" subordinate to the major head "33—Public Health".

The above amounts had therefore to be re-appropriated.

The budget estimates for 1931-32 have been drawn up accordingly.

(e) Contribution to municipal boards=Rs. 40,671.

		Rs.
Almora municipality ..	For water supply scheme ..	40,671
Total ..		<u>40,671</u>

7. During the year under report loans were sanctioned by Government for the sanitary projects mentioned below :—

		Rs.
Almora ..	Water Works scheme ..	37,671
Khurja ..	Electric supply scheme ..	18,691
Allahabad ..	(1) Construction of tube wells in the Civil Lines near Katra ..	30,153
	(2) Renovation of clear water reservoirs ..	3,955
Baraut ..	Construction of a railway feeder road ..	8,500
Muzaffarnagar ..	Electric supply scheme ..	50,000
Unao ..	(1) First instalment of the Unao drainage scheme ..	90,000
	(2) Purchase of water meters ..	10,000
Mussoorie ..	Construction of a settling tank at the hydro-electric headworks ..	88,000
Hathras ..	Water works scheme ..	25,000
Total ..		3,61,970

8. Of the schemes discussed by the Board during the year under report, projects and estimates for the works noted below, the cost of which aggregated Rs. 15,43,391 were sanctioned. In addition to these forecasts for certain works were also approved :—

(a) *Water Works.*

		Rs.
Brindaban ..	Estimate no. 23 of 1929-30 for the third trial bore ..	4,646
Aligarh ..	Revised estimate for Aligarh water supply scheme ..	5,63,245
Haldwani (district Naini Tal).	Revised estimate for the replacement of existing 4 inch main from headworks to hill slope by new 6 inch main for improving the water supply ..	5,943
Unao ..	Revised estimate for the erection of a third tube well ..	12,855
Allahabad ..	Revised project for the laying of the Rider mains in Muthiganj and Kydganj ..	33,633
Muttra ..	Revised estimate for the construction of additional tube well no. 5 ..	55,311
Jasmaur (district Saharanpur).	Revised estimate for the reconstruction of a well ..	5,993
Khurja ..	Water supply and flushing schemes ..	1,81,000
Agra ..	Estimate for additions and alterations to Agra water works extensions to raw water pumping plant ..	5,831
Dewa fair (district Bara Banki).	Water supply scheme ..	57,859
Allahabad ..	Revised project for the renovation of the clear water reservoirs at Khusrubagh ..	40,818
Brindaban ..	Supplementary estimate for a third trial tube well ..	3,255

		Rs.
Gola Gokarannath (district Kheri).	Revised estimate for the construction of a gul to supply canal water to the sacred tank	11,889
Fatehpur-Sikri (district Agra).	Fair estimate for the melawater supply scheme ..	14,800
	Total ..	9,97,078

(b) Drainage and Sewerage Works.

		Rs.
Saharanpur ..	First instalment of the drainage scheme	2,05,165
Piran Kaliar (district Saharanpur).	Improvement to Piran Kaliar drainage	3,724
Haldwani (district Naini Tal).	First instalment of the Banbhulpura drainage scheme	42,120
Lucknow	Revised project for repairs to western intercepting sewer	42,003
Cawnpore	Part I of the project for the improvement of Sisamau nala near MacRobertganj..	14,120
Kanauj	Part I of the project for the drainage scheme ..	17,097
	Total ..	3,24,229

(c) General.

Allahabad	Filling in and draining of an insanitary ditch near the Allahabad district jail ..	11,208
Cawnpore	Project for the infectious diseases hospital ..	1,33,201
Rikhikesh	Fair project for the construction of an infectious diseases hospital	33,039
Brindaban	Project for the construction of an infectious diseases hospital	44,636
	Total ..	2,22,084
	Total of (a), (b) and (c) ..	15,43,391

Sanction was accorded to the preparation of the following schemes by the Superintending Engineer, Public Health department :—

1. Moghal Sarai town area Drainage scheme (fair project). (district Benares).
2. Hardwar Anti-malarial works (forecast of cost).

Sanction was also given to the preparation of the forecast of cost by the Irrigation department for covering the channel (gul) constructed by them to supply canal water to the sacred tank at Gola Gokarannath (district Kheri).

9. As stated in the last year's report every endeavour is made to utilize to the best advantage the funds placed at the disposal of the Board. In this connexion it is worth while to reiterate here the remarks made in paragraph 9 of the report for the year ending March 31, 1930, as they still hold good equally :—

“It is however regretted that several local bodies had to refund the grants made to them for failing to utilize them within a reasonable time. Cases were also brought to the notice of the Board in which

grants made had been utilized improperly or expended on purposes other than those for which funds had been allotted. Great care has now to be exercised by the Board in the matter of sanctioning grants and making payments as on the one hand the proper observance of the financial rules and of the restrictions laid down by the Audit department has to be kept in view while on the other the wastage of public money or its improper use by the grantees has to be guarded against. With this view safe guards such as requiring a programme of funds in all cases of grants exceeding Rs. 5,000 and fixing a time-limit, etc., have been provided."

10. Tabulated results of municipal water supplies in the United Provinces for 1929-30 were considered and the Director of Public Health was asked to address the municipal boards, where the results were unsatisfactory, on the subject.

11. The last annual reports of the Director of Public Health and the Superintending Engineer, Public Health department, were recorded with an expression of satisfaction at the work done by the two branches of the Public Health department.

12. Inspection reports on the sanitation of certain municipalities submitted by the Director of Public Health were considered and copies of those on the sanitation of Azamgarh, Meerut and Shahjahanpur were forwarded to Government with the recommendation that as the state of affairs continued to be unsatisfactory and no improvement had been made the municipal boards be superseded.

13. The inspection notes of the Mechanical Adviser to Government on various water works were considered and necessary action taken. The report on the Lucknow water works disclosed a very serious state of affairs and it was clear that previous warnings had gone entirely disregarded. The matter was reported to Government and it was remarked that the municipal board should at once appoint a competent man to take charge of its valuable water works on a suitable salary and should take immediate steps to remedy the defects pointed out by the Mechanical Adviser in his inspection reports.

14. The following remarks by the Mechanical Adviser to Government and the Superintending Engineer, Public Health department, in connexion with the working of the Cawnpore water works were circulated to other municipal boards having water works for their consideration and information :—

"It is worthy of note that since 1922-23, when there was a big deficit, these water works have shown a profit which has averaged Rs. 1,47,989 per annum and reached Rs. 2,29,972 for the year 1929-30. This is highly creditable, and represents 6.38 per cent. on the total cost of the works. It also enables the board to finance extensions and improvements as required."

"These excellent results have mainly been obtained by adopting the advice of officers of this department in regard to the installation of meters on service connexions and similar results would have been obtained by the other large municipalities in the Province if they had followed the example of the Cawnpore board."

15. Rules regarding the submission of progress and periodical reports and returns by local bodies, on public health works financed by grants-in-aid or loans or recommended by the Board of Public Health revised by a sub-committee appointed by the Board in the light of further experience, were considered and as finally approved submitted to Government for sanction.

16. The Board approved of the proposal of the Superintending Engineer, Public Health department, recommending percentage charges for the supervision of the construction of town planning schemes, slaughter houses, markets, model lodging houses, etc., as these were not prescribed in the rules for the preparation of plans and estimates for public health works in municipalities, district boards, notified and town areas, and ordered the papers to be submitted to Government.

17. The proposal of the Superintending Engineer, Public Health department, that the rules for the preparation of projects, for public health works costing over Rs. 10,000 in value should be so amended as to make it compulsory for all local authorities in need of financial assistance from Government in the form of grant or loan to submit a forecast in the first place to ascertain if funds will be forthcoming before proceeding with the preparation of the detailed proposals was also approved and submitted to Government.

18. The revised "Type" specification and conditions of contract for hand pumped well supplies submitted by the Superintending Engineer, Public Health department, were approved.

19. The project for the Pauri headquarters water supply was dropped as the only feasible and practical scheme was likely to cost between Rs. 20,000 and Rs. 30,000 and the Board were not in a position to allot funds for the scheme to that extent. With the permission of the Chief Engineer, Public Works department, Buildings and Roads Branch, the pipes already purchased by funds provided by the Board were handed over to the District Engineer, Garhwal, for safe custody.

20. The Board decided that the restriction of half contribution in the case of grants for public health works by village panchayat be relaxed, but that preference should ordinarily be given to those who are prepared to contribute half. The suggestion of the District Magistrate of Muttra that the Board should reconsider their policy of insisting on contributions equal to half the cost of public health works to be carried out in rural areas was discussed. The Board did not see their way to modify the general principle on which these grants have always been made, reserving of course the right to deal with individual hard cases on their merits.

21. The Board undertook to contribute one lakh within three years towards the cost of the Hardwar drainage scheme, but the scheme had to be postponed for the reason that the Hindu Mahasabha and the local Hindu public of Hardwar did not agree to the proposed sewage disposal scheme.

22. A memorandum of terms arrived at between the Irrigation and the Public Health Engineering departments regarding the maintenance and running of the tube well and pumping plant in connexion with the water supply at Piran Kaliar (a pilgrim centre in the Saharanpur district) by the Irrigation department was approved and the papers submitted to Government for necessary sanction.

23. The forecast of cost amounting to two lakhs for extension of the Ghaziuddin Hyder Canal, Lucknow (anti-malarial works) drawn up by the Superintending Engineer, Public Health department, and approved by the Board of Public Health was sanctioned by Government, but as this work was not considered so important as the improvement of the sewerage system and the water works at Lucknow the preparation of the fair project was postponed.

24. Orders for the payment of a sum of Rs. 5,000 promised by the Board sometime ago towards the cost of the survey of the Benares Ghats were issued as it was understood that the work had been started.

25. The plans and estimates for the Khurja water supply and flushing schemes estimated to cost Rs. 1,81,000 were sanctioned but the Commissioner was informed that as the municipal board had to repay several loans it did not appear to be in a sufficiently good financial position to undertake another big loan at present. The water from the trial tube well constructed at Khurja having been reported unsuitable for domestic purposes it was ordered to be abandoned.

26. The Commissioner, Kumann division, having informed the Board that a donor had deposited Rs. 10,000 towards the Pithoragarh water supply scheme and having requested that the scheme may be taken in hand and the necessary contribution be made by Government the case was referred to the Superintending Engineer, Public Health department, for advice. Board decided that the question of

water-rights and way-leaves, i.e., right to take pipes on private lands be settled first and then a scheme with proper plans should be prepared by the District Board Engineer for examination by the Superintending Engineer, Public Health department.

27. Government having referred the proposal of the Superintending Engineer, Public Health department, that (in view of difficulties experienced of late) contracts for sanitary or health works over Rs. 10,000 in value carried out under the supervision of the Public Health Engineering department be limited to contractors in that department's approved list of contractors for opinion, Board agreed to the proposal subject to the proviso that the department notified local bodies that they were prepared to receive applications from contractors to have their names included in the approved list.

28. The matter of an alternate cheaper scheme for supplying Jwalapur with water was fully gone into but no alternative scheme at a reduced cost could be recommended.

29. The question of a grant by the Board of Public Health to be devoted to the extension of the district health service (which is in existence in 28 districts) to the districts of Meerut, Budaun, Jhansi and Banda on condition that the district boards concerned paid one-third of the cost came before the Board more than once. Owing to certain technicalities the Finance department did not agree to the terms on which a grant of Rs. 60,000 was offered by the Board. In view of the proved utility of the scheme and the need of its extension on the one hand and the straitened provincial finances on the other, the Board agreed to surrender the sum of Rs. 60,000 from the recurring grant of Rs. 2,40,000 under head "rural sanitation and minor sanitary works" unconditionally. They, however, made it clear that they will not be prepared to reduce their recurring grant under this head any further and expressed a hope that as soon as the financial position improved Government would be pleased to restore the amount to their budget.

30. The proposal of the Director of Public Health for the formation of the divisional malaria committees in certain districts as an experimental measure, which it was understood will work on an honorary basis, was welcomed by the Board as they believed that these committees would be undoubtedly highly beneficial.

31. It was reported by the District Medical Officer of Health, Gonda, that the hand pumps fixed at different wells in the district of Gonda out of a grant made by the Board of Public Health were not in proper order. The Board agreed to their being taken out and fixed in school wells where there was need and where the permanent mistri could look after them and teachers made responsible for their proper working.

32. The application for the allotment of funds towards the construction of a tuberculosis hospital at the King George's Medical College, Lucknow, was refused as under the arrangements now in force the provision of funds or contributions for such a purpose falls strictly within the purview of the Medical department and is outside the functions of the Board of Public Health.

33. At a meeting held on March 14, 1931, there was an interesting discussion on the attitude which should be adopted by the Board of Public Health towards applications for grants to anti-tuberculosis leagues. As such aid did not at present fall within the proper object of grants from the Board of Public Health, the Board laid down the principle that in future no grants will be made for objects of this nature.

MOHI-UD-DIN,

KHAN SAHIB,

Secretary, Board of Public Health,

United Provinces.

LUCKNOW :

April 21, 1931.

APPENDIX B.

Statement showing expenditure incurred during 1930 out of the grants made by the Board of Public Health, United Provinces, for the improvement of rural sanitation in previous years.

Number.	Division.	District.	Balance in hand on December 31, 1929.	Expendi- ture in 1930.	Balance in hand on December 31, 1930.
			Rs.	Rs.	Rs.
1	Meerut.	Dehra Dun .. ..	..	..	..
2		Saharanpur .. ..	..	..	..
3		Muzaffarnagar	600	600	..
4		Meerut .. ..	..	..	..
5		Bulandshahr .. ..	..	..	..
6	Agra.	Aligarh .. ..	..	..	..
7		Muttra	5,829	..	5,829
8		Agra .. ..	..	..	..
9		Mainpuri .. ..	..	..	..
10		Etah .. ..	..	..	..
11	Rohilkhand.	Bareilly .. ..	..	..	..
12		Bijnor .. ..	..	..	..
13		Budaun .. ..	..	..	..
14		Moradabad .. ..	..	..	..
15		Shahjahanpur .. ..	..	..	..
16		Pilibhit	521	521	..
17	Allahabad.	Farrukhabad .. ..	..	..	..
18		Etawah .. ..	..	..	..
19		Cawnpore .. ..	..	..	..
20		Fatehpur .. ..	..	..	..
21		Allahabad .. ..	..	..	..
22	Jhansi.	Jhansi .. ..	..	..	..
23		Jalaun .. ..	..	..	..
24		Hamirpur .. ..	..	..	..
25		Banda .. ..	..	..	..
26	Benares.	Benares	10,184	9,381	803
27		Mirzapur .. ..	..	..	..
28		Jaunpur .. ..	..	..	..
29		Ghazipur .. ..	..	..	..
30		Ballia .. ..	..	..	..
31	Gorakhpur.	Gorakhpur	10,741	*7,075	3,666
32		Basti .. ..	..	..	..
33		Azamgarh .. ..	..	..	..
34	Kumaun.	Naini Tal .. ..	..	..	..
35		Almora .. ..	..	..	..
36		Garhwal .. ..	..	..	..
37	Lucknow.	Lucknow .. ..	..	..	..
38		Unao .. ..	..	..	..
39		Rae Bareilly .. ..	..	..	..
40		Sitapur .. ..	..	..	..
41		Hardoi .. ..	..	..	..
42		Kheri .. ..	..	..	..
43	Fyzabad.	Fyzabad	2,738	734	2,004
44		Gonda .. ..	..	..	..
45		Bahraich	22	22	..
46		Sultanpur .. ..	..	..	..
47		Partabgarh .. ..	..	..	..
48		Bara Banki	94	65	29
Total ..			30,729	18,398	12,331

*Includes Rs. 4,016 refunded into Government treasury.

Summary of the work done during 1930 by the public health personnel

Serial number.	Name of district.	Number of days on tour.		Number of villages visited.	Number of villages visited for epidemics.	Number of villages where improvements were made on the advice of Public Health staff.	Verification of births and deaths.		Number of plague inoculations done.	Number of cholera inoculations done.
		District Medical Officer of Health.	Assistant Medical Officer of Health.				Number of entries checked.	Percentage of omissions discovered.		
1	2	3	4	5	6	7	8	9	10	11
1	Muzaffarnagar ..	160	174	(a)1,094	56	60	8,766	5.5	84	718
2	Bulandshahr ..	174	183	1,272	186	375	16,896	2.4	..	410
3	Muttra ..	115	160	(a)1,067	209	152	8,210	3.3	(b)	(b)
4	Moradabad ..	203	222	1,844	606	466	16,725	4.6	5,173	2,354
5	Fatehpur ..	194	190	1,091	312	100	14,169	6.9	113	3,946
6	Allahabad ..	224	*397	2,841	794	89	5,040	8.3	..	6,806
7	Benares ..	172	218	1,207	285	421	15,623	3.6	738	3,300
8	Mirzapur ..	193	174	1,495	543	318	6,759	4.2	..	3,707
9	Jaunpur ..	238	266	2,634	539	553	5,582	9.7	771	1,130
10	Ghazipur ..	204	190	1,974	732	111	13,593	3.5	4,011	3,887
11	Ballia ..	195	166	1,360	601	224	4,818	4.2	5,963	775
12	Gorakhpur ..	163	*618	5,711	4,205	433	11,852	3.0	3,982	12,378
13	Basti ..	210	*363	2,965	1,759	344	4,215	11.0	2,369	9,402
14	Azamgarh ..	182	*351	3,050	1,044	141	9,059	2.9	5,583	1,682
15	Naini Tal ..	222	224	778	111	144	1,883	3.9	239	1,674
16	Garhwal ..	157	306	1,260	25	..	46,695	.5	690	816
17	Lucknow ..	182	232	(a)1,536	235	48	12,052	1.0	..	1,702
18	Unao ..	177	131	1,363	195	412	6,004	11.8	35	204
19	Rae Bareli ..	223	209	1,442	321	340	7,957	3.6	..	3,173
20	Sitapur ..	205	143	1,466	397	159	5,051	1.9	589	1,821
21	Hardoi ..	198	132	1,775	303	124	3,731	2.2	165	†1,767
22	Kheri ..	215	190	1,152	491	68	3,506	6.2	1,250	1,071
23	Fyzabad ..	212	190	2,060	923	79	7,043	6.0	5,886	†963
24	Gonda ..	203	*433	2,296	918	241	6,619	26.3	..	21,752
25	Bahraich ..	196	216	539	221	662	5,385	10.4	..	15,512
26	Sultanpur ..	141	184	1,363	719	990	6,020	.9	113	7,430
27	Partabgarh ..	223	214	2,112	979	115	2,030	5.4	..	2,167
28	Bara Banki ..	172	186	1,384	672	29	12,142	11.0	345	3,026
	Total ..	5,353	6,712	50,136	18,936	7,203	267,430	6.0	43,157	113,573

* There are three assistant medical officers of health in the Gorakhpur district and two in each of the districts of Basti, Azamgarh, Gonda and Allahabad. The number of days they were on tour has been shown collectively in column 4.

† Includes 492 inoculations performed by medical officers on cholera duty.

‡ Excludes 184 inoculation performed by extra medical officers deputed on epidemic duty.

(a) The number exceeds the total number of villages in the district as many villages were inspected by the district medical officers of health, assistant medical officers of health and sanitary inspectors separately, and therefore such villages have been counted as 3 instead of 1.

(b) There was no serious epidemic of cholera or plague in the district.

DIX C.

in districts where the district health service has been established.

School boys.	Number of village aiders trained.		Number of first aid dispensaries.		Number of factories inspected.	Hygiene Publicity work.		Number of dais trained in maternity and child welfare.	Number of villages in which village aid scheme has been introduced.	Number of schools visited.	Number of scholars examined.
	Government servants (e.g., chowkidars, patwaris and subordinates of the Co-operative department) and school teachers.	Number of the general public.	Opened during 1930.	Total up to December 31, 1930.		Number of magic lantern demonstrations given.	Number of lectures delivered.				
12	13	14	15	16	17	18	19	20	21	22	23
656	158	..	13	27	..	20	582	553	66	..	..
209	717	409	64	88	10	160	2,045	371	192	105	7,007
..	416	229	28	35	2	35	462	99	65	50	529
856	549	605	30	69	2	28	2,624	198	(c)169	87	3,720
901	893	..	32	86	1	34	1,902	162	100	44	2,865
471	258	202	23	90	1	534	2,895	433	40	..	..
466	216	765	21	28	8	19	435	94	32	101	9,457
1,388	523	547	..	16	..	4	667	100	98	42	2,634
176	640	224	12	13	..	10	1,687	343	(d)30	214	8,316
255	778	35	23	108	..	14	1,454	375	155	126	8,272
6,303	898	233	30	55	..	8	1,863	787	55	17	2,205
746	467	430	11	38	2	19	3,631	319	85	..	..
1,784	242	64	5	6	1	99	2,089	218	47	164	8,565
341	490	417	14	312	..	14	2,184	258	38	..	..
193	745	396	25	25	4	7	1,113	108	24	..	..
..	79	240	11	11	..	..	386	70	..	16	618
570	643	50	3	48	..	22	604	71	59	46	3,016
641	564	170	25	61	3	27	527	212	155	77	4,867
194	105	164	18	40	..	29	1,250	110	60	72	4,893
133	544	44	5	13	..	42	1,193	155	89	77	3,876
493	592	708	..	21	1	..	2,272	200	127	107	..
857	429	305	1	13	1	11	952	94	43	55	2,826
195	298	38	17	109	(e)	14	1,728	451	79	51	3,538
485	552	33	..	11	4	43	1,000	283	10	..	8,536
297	217	212	9	45	2	15	2,344	189	63	76	3,798
284	359	..	7	87	..	15	1,335	9	125	108	5,683
803	513	344	3	52	..	14	710	208	27	73	6,280
133	538	..	6	44	1	11	1,747	126	72	90	3,095
19,830	13,423	6,869	442	1,551	43	1,248	42,131	6,596	2,105	1,804	104,596

(c) Whole scheme is in operation in 57 villages and part in 112 villages.

(d) In addition part scheme is in operation in 170 villages.

(e) There is no factory in this district.

APPENDIX D.

Report on the Public Health and Medical arrangements made at the Kumbh Mela, Allahabad, 1930.

The report is divided into the following parts:—

Report.

- A. Introductory.
- B. Preliminary arrangements and special features.
- C. Arrangements outside Allahabad.
- D. Arrangements in Allahabad—Outside the mela area—
 - (a) At the railway stations and roads.
 - (b) By the Allahabad District Board.
 - (c) By the Allahabad Municipal Board.
- E. Arrangements in Allahabad—Within the mela area.
- F. Outbreak of cholera.
- G. Recommendations and general remarks.

A.—Introductory.

2. The “Magh Mela” of Allahabad is an annual festival held in the month of *Magh*. It ordinarily lasts from the 1st of January to the 15th of February. Origin of the fair.

A bath in the *Triveni*, i.e., the confluence of the three rivers, namely, Ganges, Jumna and the Saraswati (the last of these according to tradition once existed but has since disappeared), is considered holy at all seasons of the year, but specially so during the month of *Magh*.

Every twelfth year when the planet Jupiter is in Taurus (*Vrishav*) and the sun and moon in Capricornis (*Makar*) like this year, the *Magh Mela* becomes a “Kumbh”, and midway between each Kumbh, i.e., in the sixth year, occurs an *Ardh Kumbh*. On these occasions the fair is formally attended by the corporate bodies of the various sects of religious ascetics (*sadhus*).

The attendance at the annual fairs is ordinarily from 8 to 10 lakhs on the *Amawasya* day, but the congregation of pilgrims at a Kumbh rises to 30 lakhs or more.

It is one of the largest fairs in India which attracts huge crowds of Hindus from the farthest parts of the country and affords a remarkable instance of the great force which a religious faith exercises in inducing lakhs of people to leave their homes from distant lands and to undergo discomfort and inconveniences of a long journey. Thousands stay for a month or more in a sandy river bed with no proper shelter from weather at the coldest time of the year.

A short note describing the mythological origin and spiritual significance of the Kumbh Fair will not, therefore, be found uninteresting and is given as Appendix I.

3. The chief bathing days of *Kumbh Mela*, 1930, were the following:— Chief bathing days.

<i>Makar Sankrant</i>	..	..	..	..	January 14, 1930.
<i>Amavasya</i>	..	..	..	..	January 29, 1930.
<i>Basant Panchmi</i>	..	..	..	..	February 3, 1930.
<i>Purnmashi</i>	..	..	..	..	February 13, 1930.

4. In calculating the medical and sanitary requirements of the fair, the figures of the Kumbh of 1918 were taken as basis. It was, however, anticipated that as agricultural conditions, on which attendance in fairs in India chiefly depends, were this year decidedly better and the means of transport greatly improved than in 1918 (when war was in progress), attendance on *Amawasya* would be larger this year. Attendance at the fair.

The actual attendance on that day, however, far exceeded the estimated figures (25 lakhs) and was unprecedently large. Not less than 35 lakhs bathed in the *Sangam* on January 29, and the people who had been present at the previous 4 or 5 Kumbhs and *Ardh Kumbhs* assert that the attendance this year was larger than ever before.

The following table gives the figures of gathering on the chief bathing days of Kumbh, 1930, as compared with Kumbh, 1918 :—

			Kumbh, 1930.	Kumbh, 1918.
<i>Sankrant</i> (January 14)	..	..	900,000	1,000,000
<i>Amawasya</i> (January 29)	..	..	3,500,000	2,500,000
<i>Basant Panchmi</i> (February 3)	..	..	1,200,000	500,000
<i>Purnmashi</i> (February 13)	..	..	300,000	25,000

The resident population inside the mela area on the chief festival days, as ascertained through the agency of the Medical Officers of Health, was as follows:—

			Kumbh, 1930.	Kumbh, 1918.
<i>Makar Sankrant</i>	..	..	360,000	150,000
<i>Amawasya</i>	..	..	1,570,000	1,500,000
<i>Basant Panchmi</i>	..	..	325,000	300,000

The number of *Kalp-basis*, i.e., those who stayed for the whole month of *Magh*, was considerably over two lakhs.

Duration of the fair.

5. The *akharas* began arriving from January 4 and all *akharas* had arrived by January 13, i.e., one day before the first chief bathing day.

On *Sankrant* 75 per cent. of the pilgrims hailed from the Punjab. From January 22 the pilgrims for *Amawasya* (January 29) began to arrive, the great majority of whom belonged to the United Provinces, Bengal and Bihar and Orissa.

The last bathing day was February 13, after which the resident population began to leave, and by February 21 all the pilgrims were gone.

Railway figures.

6. The total number of pilgrims who travelled by rail between January 7 and February 14, as disclosed by the tickets collected, is shown below :—

Inward	..	..	..	..	..	778,145
Outward	..	..	..	..	..	899,396

The number of pilgrim specials run was :—

Inward	..	..	..	..	..	608
Outward	..	..	..	..	..	666

A statement showing daily figures of the inward and outward journey and the pilgrim specials, as ascertained from the railway authorities, is annexed as Appendix II.

The E. I. Railway opened a new railway station (Allahabad Sangam) very close to the bund which greatly facilitated the pilgrim traffic.

The rush of the outgoing passengers on the chief bathing days was so heavy that the station yards were densely packed to their utmost capacity and may be taken as unprecedented in the history of railway traffic. The railway organization for handling was so admirably conceived in all details that these huge crowds were carried away in the shortest possible time.

Motor cars and motor lorries brought pilgrims from places as far distant as Peshawar, Amritsar and Delhi.

B.—Preliminary arrangements and special features.

7. Under the general direction of the Director of Public Health Dr. Control.
K. P. Mathur, Assistant Director of Public Health, III Range, United Provinces, in whose range the fair is held, organized the public health and medical arrangements for the fair and remained in their executive charge.

The Director of Public Health, United Provinces, reserved to himself the co-ordinative and administrative duties necessary in Allahabad and the rest of the province and the arrangements for the close co-operation of the other departments of the Government, the various local bodies concerned, the railways and the other Provincial Governments.

8. The first meeting, consisting of official and non-official members, was Meetings.
held at Allahabad on February 12, 1929 to consider the preliminary arrangements for the fair. This was attended by the Director of Public Health, United Provinces.

Another meeting to discuss the railway arrangements was held on September 10, 1929.

His Excellency the Governor discussed the arrangements on the spot on September 17, 1929.

A conference of the Directors of Public Health, United Provinces, Punjab, and Bihar and Orissa, which was also attended by the Divisional Superintendents, E. I. Railway, Allahabad and Lucknow, and the Chief Medical Officer, E. I. Railway, and Dr. Asheshov on cholera research duty under the Indian Research Fund Association and Mr. Tunncliffe, Executive Engineer, Public Health department, II division, was held in Allahabad on November 19 and 20, 1929 under the presidency of Lieutenant-Colonel C. L. Dunn, I.M.S. The full arrangements drawn up and sanctioned by Government for the sanitation of the mela and the prevention of epidemic diseases were explained at length and all details of the co-operation required from the E. I. Railway were finally settled.

Similar arrangements were agreed to with the B. N.-W. Railway and G. I. P. Railway authorities. The Principal, Medical and Health Officer, G. I. P. Railway, discussed with the Assistant Director of Public Health, III Range, United Provinces, the railway arrangements at a meeting at Jhansi on December 5, 1929.

The Allahabad Fort authorities held a meeting at the Fort on December 21, 1929 in which all matters affecting the sanitation of the Fort were discussed and settled.

9. The preliminary proposals for the sanitary and medical arrangements Proposals.
of the mela were prepared in January, 1929 and the budget of expenditure on staff had been worked out by June, 1929. Lists of equipment, medicines and other stores were ready by the end of August.

10. In July, 1929 all roads in the Allahabad district were inspected and Roads and
the District Board was asked to take up their repairs. The camping grounds, camping grounds
wells and tanks were also inspected and cleaned and repaired, where necessary.

The District Boards and Public Works department officers of the adjoining districts of Banda, Benares, Fatehpur, Jaunpur, Mirzapur and Partabgarh were also requested to carry out a systematic examination of the roads leading to Allahabad and the camping grounds, wells, tanks, etc., situated thereon. Necessary action in this respect had been taken before the end of December, 1929.

11. The Kumbh area included the beds of the two rivers lying within Mela area.
the right bank of the Jumna and left bank of the Ganges, extending upwards to the Jumna Bridge on one hand and the Izat Bridge on the other and downwards to about half a mile below the *Sangam*. It also included the villages Jhusi and Arail and the area above bund lying between the Grand Trunk and Fort roads and also Alopi Bagh.

The main site of the fair consisted of the bed lying between the bund and the place where the rivers Ganges and Jumna meet. The extent of this area is variable and depends entirely on the course of the river Ganges. This year the confluence was at a distance of a little over a mile and half from the bund. It afforded abundant space for the fair and was an important factor in the great success of the mela arrangements.

The erosive action of the river Ganges was gradual, but became most marked after February 3 (*Basant Panchami*), by which date since January 1, 1930 between 100 to 600 feet of its bank had been washed away.

A bathing maidan which in the third week of January was about 620 feet wide and quadrangular in shape had completely disappeared by February 5 (see the plan—Appendix III). On the *Purnmashi* day (February 13) the junction of the two rivers had come to about 200 feet nearer the bund.

It was fortunate that on the chief bathing day (January 29) there was an abundance of shallow water in which the pilgrims bathed.

To stop the cutting action of the river several short spurs were constructed by the Public Works department.

Lay-out.

12. The plan of the Kumbh Mela area (vide Appendix III) gives a clear idea of the general lay-out of the site. It shows the position of the different *akharas*, pilgrim camps, hospitals, dispensaries, latrines, urinals, etc.

In the mela area proper, which mostly consists of the sandy bed of the rivers Ganges and Jumna, nothing could be done until the rains had completely ceased. The work of cleaning the mela area was commenced from November 15, 1929 and the lay-out of the mela area into roads, lanes and enclosures was carried out in the first two weeks of December, 1929 and was strictly in accordance with the instructions given in the Manual of Government Orders.

The construction of the sanitary camps and hospitals was completed by December 31, 1929.

The *akharas* were allotted plots of land in the same relative position as in the previous Kumbhs. The mahants of all *akharas* were most conciliatory and laid out their camps in accordance with the advice tendered by the Public Health Officers and readily co-operated in the sanitary arrangements of their camps.

The District Magistrate kindly lent the services of Mr. Wazir Sahai, Chief Engineer, Improvement Trust, Allahabad, for giving assistance in the lay out of the fair area, and his advice on many points was most valuable.

Commencement of the medical and sanitary arrangements.

13. The police force arrived on December 15, 1929, and a hospital for Police Reserve was therefore opened from that day. All the other hospitals and sanitary organizations were in full working order from January 1, 1930 when the pilgrims had begun to arrive in large numbers, especially in the Jhusi circle.

Most of the public latrines and urinals were ready on or before January 1, 1930. They were increased in number gradually as necessity arose.

Special features.

14. The following features of this year's fair deserve special mention :—

(a) *Improved lighting arrangements.*

The mela area was this year, for the first time in the history of the fair, lit with electric light. All the main and branch roads and bathing ghats were lighted which conduced to the greater comfort of the pilgrims, specially the early bathers. Two hundred and thirty street lamps were provided for the main and important branch roads, and in addition 180 lamps for the camps of voluntary agencies and Government offices, hospitals, etc. Petromax and Kitson lamps were supplied for the main infectious diseases hospital and the branch hospitals of Jhusi and Arail circles. Light was given without interruption from January 5 to February 28. The electric light was much appreciated, and it, to some extent, lightened the task of supervision of the Public Health and Police departments.

(b) *Improved water-supply.*

The drinking water-supply for the proper mela area was derived from two tube-wells constructed above the bund. One of these, a 9-inch tube-well (approximately 245 feet deep), which was constructed in 1927 and is worked with air compression and driven by an oil engine having a centrifugal pump, supplies water to the Magh Mela during the months of January and February every year. Its yield, when working to its full capacity, is 250 gallons of water per minute and is sufficient to meet the demands of the ordinary melas. For the Kumbh Mela a second tube-well (approximately 250 feet deep) which was worked with air compression and driven by steam engine

having Washington pump was completed in the first week of January and supplied water in conjunction with the original tube-well. Its yield was also about 250 gallons of water per minute. The two tube-wells were able to maintain an adequate supply of water for the Kumbh Mela. On ordinary days the water was supplied for 14 hours, and on the important bathing days for 22 hours. The supply was at the rate of 500 gallons per minute, and on the big days both the tube-wells delivered water at the rate of 720,000 gallons per day. A water-supply from the municipal mains was given from December 16 to December 31, 1929, after which the whole supply was taken from the two tube-wells. This continued without a break up to February 28, 1930.

There were 225 standposts, 21 services tanks (including 7 for the 7 important *akharas*) of 400 gallon capacity and 76 fire hydrants and stop-cocks.

(c) *Special measures against cholera.*

Medical inspection posts were instituted at all railway stations on points of entry into the province and important junctions and other stations *en route* to Allahabad with well equipped isolation hospitals.

In view of the prevalence of cholera in Bihar and Orissa Province throughout the months of December, 1929 and January, 1930 the medical inspection of pilgrims at the border and *en route* railway stations was a very essential measure to prevent importation of the disease into the province and the mela area.

At the request of the Public Health department of this province, the Governments of Bengal, Bihar and Orissa and the Punjab instituted reciprocal inspection of pilgrims proceeding to and returning from Allahabad. The Public Health department of Bombay also arranged for the medical inspection of returning pilgrims at important junctions in that Presidency and for keeping them under observation for 7 days after their return to their native places.

Mention must be made of the great difficulty which was experienced in getting medical officers for hospitals, and for passenger inspection duty on road posts, at railway stations and for running with trains.

As early as October the requirements were advertised in a leading newspaper, but against a requirement of 184 only 87 medical men were available.

Fortunately the Director of Public Health, Bengal, came to our rescue, and by his assistance we obtained 45 medical inspectors from Bengal. In spite of all efforts the full number of medical men required could not be obtained, with the result that the scheme of sending out medical inspectors with slow passenger trains and pilgrim specials carrying pilgrims on the outward journey could not be fully carried out.

(d) *Increased facilities for rendering medical aid.*

The arrangements for the treatment of diseases were organized on an extensive scale. Within an area of approximately 5 to 6 miles there were 13 hospitals instituted by the Public Health department with a staff consisting of 3 medical officers with European qualifications, 8 possessing the M.B. B.S. degree and 8 of the Sub-Assistant Surgeon class.

In addition there were 22 dispensaries working in the mela under the supervision of private agencies. These afforded medical aid to thousands of pilgrims.

(e) *Co-operation among workers.*

The hearty co-operation of all the private organizations working in the mela in matters affecting the sanitary and medical arrangements was most remarkable.

All mahants of the different religious bodies which had gathered exerted their influence in every way to prevent nuisances in their enclosures. The excellent sanitary condition maintained throughout the mela period was, in no small measure, due to the willing assistance and co-operation of the pilgrims themselves.

General orderliness of the huge crowds at the bathing ghats, roads and lanes was a most striking feature of this Kumbh Mela.

C.—Arrangements outside Allahabad.

Control.

15. The Assistant Director of Public Health, II Range, United Provinces, in charge of the Epidemiology branch, was entrusted with the duty of inspecting the segregation hospitals established at border and *en route* railway stations and the arrangements for the provisions of medical treatment and equipment of these hospitals.

Medical inspection posts.

16. With a view to prevent the importation of cholera into the province from other provinces medical inspection of passengers was instituted at nine border railway stations of the province from December 15, 1930. These inspections are being organized every year since 1927. The railway stations are as follows :—

N.-W. Railway	... Saharanpur and Ghaziabad.
G. I. P. Railway	... Muttra, Jhansi and Manikpur.
E. I. Railway	... Moghal Sarai.
B. N.-W. Railway	... Bhatni, Gorakhpur and Ballia.

Inspection posts and hospitals were also arranged at the following important *en route* railway stations :—

G. I. P. Railway	... Karwi, Banda, Chitrakot and Bharatkup.
E. I. Railway	... Cawnpore, Ajodhya, Fyzabad, Partabgarh, Unchahar, Shahganj, Jaunpur, Janghai, Kashi, Bindhachal and Benares Cantonment Junction.
B. N.-W. Railway	... Benares City, Mau Junction, Aunrihar Junction and Chilh.

Supervising officers

17. The following officers superintended the medical inspections at the railway stations named against them :—

District Medical Officer of Health, Azamgarh, for Mau.	
Ditto	Ballia, for Ballia.
Ditto	Benares, for Moghal Sarai Junction.
Ditto	Ghazipur, for Aunrihar Junction.
Ditto	Gorakhpur, for Bhatni and Gorakhpur.
Ditto	Jaunpur, for Janghai and Shahganj.
Ditto	Mirzapur, for Chilh.
Ditto	Partabgarh, for Partabgarh.
Medical Officer of Health, Municipal Board, Saharanpur, for Saharanpur.	
Ditto	Muttra, for Muttra.
Ditto	Jhansi, for Jhansi.
Ditto	Cawnpore, for Cawnpore.
Ditto	Fyzabad, for Fyzabad and Ajodhya.
Ditto	Jaunpur, for Jaunpur.
Ditto	Mirzapur, for Bindhachal.
Ditto	Benares, for Kashi, Benares City and Benares Cantonment.

The Civil Surgeon, Banda, for Manikpur, Banda, Chitrakot, Bharatkup and Karwi.

The Civil Surgeon, Meerut, for Ghaziabad.

The work of the medical inspectors on duty at railway stations at Benares was supervised by a chief medical inspector and at Moghal Sarai by a special health officer. An Assistant Medical Officer of Health supervised medical inspection at Bhatni and another at Gorakhpur.

18. Details of the staff on duty on the medical inspection posts and arrangements made for the reception and treatment of infectious cases at the border and *enroute* railway stations are given in Appendix IV.

19. The number of cases intercepted up to February 20, 1930 at the border railway stations are given in the following table :—

Name of railway station.	Number of cases intercepted.					
	Cholera.	Suspected cholera.	Diarrhoea.	Small-pox.	Plague.	Other diseases.
Moghal Sarai	15	8	7	24	..	6
Ballia	3	5	..	2	..	2
Bhatni	27	..	..	1	3	..
Gorakhpur	3	..	..	1	..	..
Manikpur	4	..	..	..	..	..
Jhansi	8	..	..	5	..	..
Saharanpur .. ..	..	..	..	4	..	..
Muttra .. ..	..	1	..	1	..	..
Ghaziabad	1	..	..	3	..	..

20. The number of cholera cases intercepted at the border and *en route* railway stations during the dispersal of the Kumbh Mela are given in the following table (up to February 16, 1930) :—

Name of railway station.	Number of cholera cases intercepted.		Remarks.
Jhansi	8	
Manikpur	4	
Moghal Sarai	18	
Ballia	1	
Cawnpore	4	
Fyzabad	32	
Partabgarh	4	
Jaunpur..	6	
Janghai	2	
Kashi	4	
Bindhachal	15	
Karwi	72*	* The figure includes cases of the district.
Banda		
Chitrakot and Bharatkup	..		
Benares City	12	
Mau	2	
Aunrihar Junction..	..	3	
Benares Cantonment	..	26	

D.—Arrangements in Allahabad—Outside the mela area.*(a) At railway stations and roads.***General health organization.**

21.—(a) The Assistant Director of Public Health, I Range, was placed in supervising charge of the inspection of railway passengers at all railway stations in Allahabad and also of the sanitary and medical arrangements, and the cleaning of carriages, platforms, passenger sheds at those stations.

(b) The work of medical inspectors on duty at these stations was supervised by two chief medical inspectors.

Staff.

22. The particulars about the staff of the Public Health department and that employed by the railway and the medical and sanitary arrangements on nine railway stations in Allahabad are given in Appendix V. The Police staff which was detailed to assist the Public Health staff in their inspection is also given therein.

The E. I. Railway authorities placed the whole of their medical and sanitary personnel under the orders of the Public Health department.

For want of sufficient number of medical men the scheme of sending out medical men with pilgrim specials was dropped, and the services of the available staff were utilized for the inspection of pilgrims at the railway stations (platforms and pens) and inside the mela area.

Medical men travelled with each slow passenger train up to January 26, 1930.

Isolation of infectious cases.

23. The infectious cases detained at railway stations, Allahabad Junction and Allahabad City, were transferred to the permanent municipal infectious diseases hospital at Khuldabad, and those detected at Prayag, Prayag Ghat and Izat Bridge railway stations were sent to the temporary municipal infectious diseases hospital at Alopī Bagh.

The infectious cases detected at the railway stations Jhusi and Phaphamau (which are outside the municipal limits) were treated at the segregation huts which were erected by the Public Health department at those railway stations.

The cases detected at the Naini railway stations were detained and treated in the railway infectious diseases hospital inside the railway compound, Naini. Overflow cases were sent to Arail branch infectious diseases hospital.

For the carriage of the patients from the railway stations situated within municipal limits the Allahabad Municipal Board had arranged for one motor ambulance and provided *dolis* and *kahars* with necessary disinfectants, blankets and menial staff.

Motor ambulance.

The local branch of the Indian Red Cross Society placed their motor ambulance at the disposal of the department for the conveyance of the sick on six of the principal days of the mela.

First-aid.

24. The E. I. Railway authorities provided one fully equipped first-aid post at every railway station.

Sanitary arrangements by railway.

25. (a) Sanitary inspectors were deputed to carry out sanitary arrangements at all E. I. Railway stations, including cleaning of waiting sheds, platforms, etc. Sufficient latrine and urinal accommodation was provided in each pilgrim pen.

(b) The carriages were thoroughly swept, washed and disinfected at the Allahabad Junction, Prayag and Prayag Ghat and Izat Bridge stations.

(c) Pipe water-supply was delivered in the pens and waiting sheds of Allahabad Junction, Allahabad City, Prayag and Prayag Ghat and Izat Bridge stations. The water-supply at Naini was from a tube-well, and at Jhusi and Phaphamau from the ordinary wells. These wells were protected against outside contamination and were periodically disinfected.

26. A statement showing the number of cases detected at each railway station in Allahabad is given below :—

Name of railway station.	Cases of simple diarrhoea or vomiting detected from January 1 to 28, 1930.	Cases of cholera detected between January 29 and February 18, 1930.	Other diseases, e.g., small-pox, chicken pox, etc.
Allahabad Junction ..	3	15	..
Naini	1	18	..
Prayag	3	4	..
Prayag Ghat ..	..	5	..
Allahabad Sangam ..	1	1	24
Phaphamau .. ..	..	3	..
Allahabad City ..	1	4	..
Izat Bridge	2	7	..
Jhusi .. ..	..	5	..
Total ..	11	63	24

27. The arrangements made by the E. I. Railway authorities were in every respect most satisfactory and they co-operated fully with the Public Health department. Much of the success achieved in the working of the scheme of medical inspection at the railway stations was due to their cordial assistance.

E. I. Railway arrangements.

28. Road inspection posts and segregation hospitals were organized at ten different places on the main roads leading to the mela area.

Road posts.

The locality of each road inspection post and the staff deputed are given in the map (vide Appendix VI).

The work of these inspection posts was supervised by a chief medical inspector.

The total number of cases of sickness detected by them was as follows :—

Cholera	13
Diarrhoea	5
Dysentery	8
Small-pox	1
Injury	24
Other diseases ..	61
Total ..	112

As over 75 per cent. of the pilgrims came by road, the work of inspection at the roads was very heavy and difficult, and the medical officers at these posts were on duty day and night without any rest on the chief bathing days. They inspected the pilgrims who arrived by motor lorries at the mela parking grounds. They rendered first-aid and treated cases of minor diseases.

Not a single case of oppression or neglect of duty came to notice, and the tactful manner in which they carried out their duties is most praise worthy.

(b) By the Allahabad District Board.

29. The Public Health staff under the Allahabad District Board carried out the cleanliness of the sites of the Jhusi, Arail, Naini (which lay close to the mela area) and Phapahmau village before the commencement of the fair. They also carried out the inspection of all the roads and camping grounds in the district and executed repairs, where necessary.

All the wells, tanks and other sources of water-supply were protected and disinfected through their agency.

Additional staff. 30. The additional staff employed by them was as follows :—

Sanitary inspectors	..	..	..	..	..	4
Jamadars	..	..	..	..	..	5
Sweepers..	..	..	..	..	..	40

Two gangs of coolies were entertained in Phulpur, Handia, and Karchhana tahsils respectively and one gang at each of the remaining five tahsils in the district.

**Hygiene
propaganda
work**

31. An exhibition of a model sanitary village was held and posters on public health subjects were exhibited. Lectures were also delivered on the subjects of personal hygiene, village sanitation and epidemic diseases, illustrated by magic lantern slides.

Cases detected

32. They helped in the detection of cases of illness among the pilgrims and in sending them to the hospitals in the mela area or to the municipal hospitals.

The cases of cholera and suspected cholera detected by them were as follows :—

At Phaphamau	..	..	..	1 on January 22.
At Chail..	..	..	..	1 on January 30.
At Jhusi ..	..	..	..	4 from February 3 to 6.
At Naini and Arail ..	..	..	..	8 one on January 31 and the remaining
				— cases from February 3 to 7.
				14
				—

(c) *By the Allahabad Municipal Board.*

Control.

33. Dr. M. C. Varma was in special charge of the elaborate medical and sanitary arrangements (involving an expenditure of approximately Rs. 40,000) made by the Allahabad Municipal Board for the comfort of the pilgrims attending the Kumbh Fair.

**Ambulance
arrangements**

34. The duty of removing the infectious cases detected at the five railway stations in Allahabad, which lie within municipal limits, fell on the municipality, and their good work in this connexion deserves special mention. They purchased a motor ambulance car which proved of great service.

They provided, in addition, a staff of 1 inspector, 2 jamadars, 1 sweeper and 4 kahars at each railway station with an adequate supply of stretchers and dolis equipped with blankets, etc.

Hospitals.

35. At Alopī Bagh two temporary hospitals were opened—one for general diseases (with 12 beds) and the other for infectious diseases (with 6 beds). These were in charge of an Assistant Surgeon, assisted by one Sub-Assistant Surgeon, 3 compounders, a nurse and the usual menial staff.

On February 5, when the rush of pilgrims had ceased, the temporary infectious diseases hospital was closed and the patients were removed to the permanent municipal infectious diseases hospital at Khuldabad.

The total number of cases admitted in the two hospitals was 131, out of whom 57 died. Seventeen of these which were admitted up to January 30, 1930 were reported to be cases of gastro-enteritis, dysentery, colitis, etc.

Thirty-nine of the cases were detected at the railway stations, 19 inside the lodging houses, 2 in dharamshalas and the rest in private houses in the city.

The total number of seizures and deaths from cholera within the municipality up to February 26, 1930 was 146 and 79 respectively.

One thousand one hundred and forty anti-cholera inoculations were performed within the municipal limits.

Lodging houses.

36. Two inspectors and two jamadars were posted exclusively for the lodging houses and placed under two medical officers supplied by the Public Health department.

The lodging houses were inspected at all times of the day and night. Eighty-two prosecutions under the lodging houses byelaws were instituted, the results of which were not known till the time of writing this report.

Conservancy.

37. The permanent conservancy staff of the municipality was strengthened by 5 sanitary inspectors, 11 jamadars, 11 mates, 10 disinfecting coolies, 301 sweepers and 10 doms. In addition, one whole-time sanitary inspector was appointed for the trenching grounds.

38. Steps were taken to ensure whole night street lighting and an **Water-supply**. adequate water-supply for drinking purposes and for watering the roads.

39. Special arrangements were made to prevent the discharge of sullage **Sullage water**. water into the river during the day time. A special bund was constructed on the banks of the Jumna to lagoon the surplus day pumping.

No sullage water was discharged into the river between 3 a.m. and 9 p.m. Whatever surplus remained was discharged at the foot of the bridge (which is about 3 miles from the *Sangam*) during the night.

A special pipe line was laid towards the Agricultural Institute and another towards the Leper Asylum.

E.—Arrangements in Allahabad within the mela area.**Mela regulations**

40. Temporary regulations under the Epidemic Diseases Act were framed by the Government and enforced to secure the disinfection of public vehicles used by cholera case, the disinfection and protection of water-supply and other water sources such as rivers, wells and tanks, protection of food supply and other kindred protective measures.

Copies of the special regulations are given in Appendix VII. Section 34 of the Police Act was enforced within the mela area.

Sanitary circles.

41. For the purposes of medical and sanitary arrangements the mela area was divided into the following eight circles :—

- | | |
|---------|--|
| First | Circle—Included the land above bund. |
| Second | „ —Included the land on <i>Ganga Puttee</i> West. |
| Third | „ —Included the land on <i>Ganga Puttee</i> East. |
| Fourth | „ —Included the land on <i>Jamuna Puttee</i> West. |
| Fifth | „ —Included the land on <i>Jamuna Puttee</i> East. |
| Sixth | „ —Comprised the camping ground on the Jhusi bank. |
| Seventh | „ —Comprised the camping ground on Arail bank. |
| Eighth | „ —Comprised the camping ground at Alopī Bagh. |

Each circle was placed in charge of a first class Medical Officer of Health. A statement showing the Public Health and Medical staff attached to each circle is given in Appendix VIII.

Each circle was a complete unit in itself with its separate medical officer, compounders, sanitary inspectors, vaccinators, jamadars, sweepers, disinfecting staff, hospital, *doli* bearers, latrines, urinals, tools, plant, water-supply, etc. The sanitary and medical staff lived in the circles to which they were attached.

The duties of circle officers, sanitary inspectors and medical officers in charge of hospitals are given in Appendices IX, X and XI.

A telephonic connexion was provided in the office of the Assistant Director of Public Health.

Water-supply.

42. (a) Reference has already been made to the two tube-wells which supplied water through pipes to circles I to V. In addition to the pipe water-supply there were four wells in circle I and three in circle IV.

The water-supply of circles VI (Jhusi), VII (Arail) and VIII (Alopī Bagh) was entirely from surface wells, which numbered 62. All the 69 wells were regularly disinfected with potassium permanganate.

In spite of there being the pipe water-supply and the wells, the river water was also largely used for drinking purposes, specially by the *Kalp-basis and the bairagis*.

Near the camp of the latter the Ganges bank was very steep and Jamuna water was therefore used.

Water analyses.

(b) All water-supplies were systematically examined in the municipal laboratory by Dr. Cornelius from January 1 to January 17 and again from January 28 to 30. During the remaining periods the examinations were conducted by Dr. Mitra (Municipal Medical Officer of Health) assisted by Dr. Mahendra Nath Agarwal and Dr. Yajnik.

One hundred and seventy-one samples of the pipe water-supply were examined for colony count and lactose fermentation test, 80 only of which were declared potable.

The causes of unsatisfactory results in the other cases were traced to be due to :—

- (a) Insufficient covering of the well suction chamber allowing dust to be blown into it.
- (b) Indiscriminate opening of the well suction chamber allowing dirt to enter inside.
- (c) Local contamination in the pipe line due to frequent leakages.

On removing the above defects and treating the water with bleaching powder the results became satisfactory.

One hundred and sixteen samples of raw water from the two rivers and surface wells were examined for the detection of cholera vibrios. Only in four cases vibrios were detected, but they were of a non-agglutinating variety.

The well water-supply was periodically treated with potassium permanganate.

Wells situated on the roads leading to the mela area were disinfected under the supervision of the Municipal and District Health staff.

All suspicious pools of water near the river banks were treated with bleaching powder.

(c) Complaints were made before the rain on January 31 about the nuisance caused by soakaway pits provided near the water standposts. Owing to the enormous number of persons using the standposts with the pipes constantly discharging full bore and in spite of warnings their insisting on washing clothes and cleaning utensils there, and the fact that this year there was a bed of clay about 2 to 6 feet on the mela ground above the level of sand, the pits did not absorb the surplus water quickly enough. The result was that the pits overflowed and made the surroundings of the standposts muddy and slippery. **Soakaway pits.**

To improve matters mule loads of sand were sprinkled round the standposts. Apart from this nothing could be done as the Executive Engineer was of opinion that the trouble could not be avoided unless a complete drainage system which would entail an expenditure of a huge sum of money was undertaken.

43. Reference has already been made to the introduction of electric light in the mela area. From the health point of view light was essentially required along the river banks and at and round about the public latrines. Many of the latrines and portions of the river banks which were situated at a distance from any electric lamp post were completely in the dark. For these latrines even the kerosene oil lamps, which used to be provided in ordinary years, were not supplied this year. Their absence was most felt on dark nights; and complaints were also received from the public to this effect. **Lighting.**

44. Seventy-eight public latrines of trench pattern with wooden planks and two of corrugated iron on the separate system were available for use on the *Amawasya* day—45 for males and 37 for females. The total number of seats provided in all the latrines was 9,588. Allowing one seat to every 300 pilgrims the latrine accommodation was sufficient for a population of over 2,850,000. **Conservancy.**

Licences for 494 private latrines were issued. These latrines consisted of wooden seats with a couple of pans underneath them. The fee charged for private latrines was Rs. 15 for the season.

The urinals provided were also of the trench pattern. Their number on the *Amawasya* day was 590 with 1,196 seats.

To facilitate supervision each latrine and urinal was numbered.

Appendix XII gives detailed plans of a public latrine and an urinal with the method of trenching which was adopted.

Rubbish was disposed of by burning and burying in pits of which 125 in number measuring 16' x 16' x 5' were provided. Twenty-eight galvanized iron rubbish bins were placed at the road crossings and near *halwais'* shops for the collection of refuse. **Rubbish and night soil.**

The disposal of night-soil and rubbish was so expeditiously and efficiently done that in a densely crowded area where lakhs of people had gathered, no sign of filth or nuisance was anywhere observable and there was no breeding of flies or bad smell anywhere.

The remark about the total absence of flies was on the tongue of every one. The visitors said that this year's Kumbh was one of the cleanest and most sanitary melas they had ever seen.

45. Two enclosures measuring 600' x 400' and 400' x 280' respectively, one situated on the *Ganga Puttee* (circle III) and the other on *Jamuna Puttee* (circle V) were set apart for the barbers. **Barber's enclosure.**

Three gangs of sweepers under two sanitary inspectors and three vaccinators kept the grounds of these enclosures free of hair, which were promptly collected, filled in bags and carried on boats and submerged in the river at a great distance beyond the *Sangam*.

The largest number of trips made by the boats was 15 on January 28, 1930 when it is estimated that about 260 maunds of hair were collected and removed.

46. The principal roads were regularly watered by means of one motor lorry, hose pipes connected with water hydrants, hand-pumps, bhistis or by hand labour used for emptying the absorption pits. **Dust nuisance.**

The rainfall on January 31, February 1, and February 10, 1930 helped to a great extent, in alleviating the dust nuisance.

Food supply.

47. All articles of food exposed for sale were daily inspected in all circles by the Medical and Sanitary staff. The sweetmeats, *pooris* etc., were kept covered with muslin cloth (*vide* photo of a *halwai's* shop Appendix XIII). Permanganate of potash was supplied free to all food shops for the washing of utensils and was freely used. All food, fruits, etc., found unfit for human consumption were promptly destroyed.

Detection of illness in the lodging houses and mela area.

48. The organization for the early detection of illness, which is one of the most important and difficult duties of the medical and public health staff, was as follows :—

(i) The Health staff of the Allahabad municipality was supplemented by one officer of the provincial Public Health Service and one M.B., B.S. who made very frequent inspections of the lodging houses.

(ii) In each circle the Medical Officer of Health sub-divided his circle into smaller areas with a staff consisting of a sanitary inspector and vaccinators and jamadars. They visited every pilgrim enclosure and camp daily and endeavoured personally to see as many of the occupants as possible.

The lady doctors were deputed to visit the women in the pilgrim enclosures.

(iii) The Police on sanitary duty had instructions to immediately bring cases of illness in their beat to the notice of the Public Health staff and to detect persons who visited frequently the latrines.

(iv) The latrine sweepers had instructions to report cases of diarrhoea to the circle staff. This agency could not always work satisfactorily because of the great rush at the latrines and trenching grounds and the insufficiency of staff in relation to the huge population.

All cases of diarrhoea and vomiting from any cause whatsoever were, as soon as detected, removed to the infectious diseases hospital where they were dealt with as if they were cases of cholera. The above staff was instructed in the method of carrying out the disinfection of stools, vomits and other infectious materials.

Mela hospitals.

49. (a) The number of hospitals provided and the staff which was engaged to man them is given in Appendix XIV and the plans of the hospitals in Appendix XXI.

All the mela hospitals were constructed of thatching materials and fly proof chicks were provided for the doors and windows.

All these hospitals were fully equipped with up-to-date requirements. The main general diseases hospital was fitted with electric light and the main infectious diseases hospital with gas light and petromax lamps, as the electric mains were at a great distance from it.

Dolis with *kahars* or stretchers were provided at every hospital. Sufficient accommodation in the shape of tents, *chouldaries* or huts was provided by the mela authorities for the hospital and other public health staff.

General diseases.

(b) One main hospital was provided in circle V (*Jamuna Puttee* East) for the treatment of general diseases. It had accommodation for 100 patients.

One branch hospital with 10 beds was provided in each circle and an additional hospital for the police staff in circle I (above the Bund).

(c) The main hospital for general diseases consisted of 4 wards each for 25 patients. Each ward measured 75' x 15'.

Two wards were divided into 3 partitions to provide separate accommodation for females and better class patients.

The out-patients block contained one dispensing, one observation and one operation room.

To the main general diseases hospital was attached a general store room from which all medicines, drugs, furniture, etc., were issued to the branch hospitals from time to time. A whole-time medical officer was in charge of this store.

The branch hospitals consisted of a general in-patient ward and a separate hut for out-patients with an observation room and a dispensing room.

(d) One main infectious diseases hospital with accommodation for 100 patients was provided in circle II (*Ganga Puttee* West) on the outskirts of the mela grounds just close to the Izat Bridge of B. N.-W. Railway. **Infectious diseases.**

Two branch infectious diseases hospitals with 10 beds in each were provided for circles VI (Jhusi) and VII (Arail).

Disinfectors were provided in all the infectious diseases hospitals.

The Municipal Board of Allahabad constructed a temporary infectious diseases hospital (besides the permanent one in Khuldabad) in Alopī Bagh close to which a large number of lodging houses are situated.

(e) The main infectious diseases hospital consisted of a general ward for keeping patients of diarrhoea, vomiting or both for observation, and 26 separate huts for 2 beds in each for cholera patients. One hut with 10 beds was provided at a little distance for small-pox patients. Another general hut was provided for the housing of contacts, friends and relatives of the patients. One hut served as a mortuary. More huts and land were available for extension in case of necessity.

50. Hycol lotion was kept in big *nands* at several places outside the huts **Equipment.** for liberal use by the staff.

One masonry disinfecter for disinfection with super-heated steam under pressure and one Serbian Barrel and one *gharra* disinfecter were constructed.

Besides these, the ordinary *karahai* (boiler) disinfecter for boiling the fomites and soiled clothes was constructed and proved most economical and convenient.

The dejecta of patients were collected in tarred *gamlahs* containing cyllin lotion (1 in 100). They were then boiled and buried in special trenches.

51. All soiled articles of linen were washed with soap and water after disinfection. Badly soiled ones were burnt. The string of the used cots was burnt and they were re-strung after thorough disinfection. **Disinfection.**

The contents of the gunny bag mattresses were burnt and the covers were disinfected by boiling.

The earth of the floor of the infected huts was scraped for a depth of about $\frac{1}{2}$ inch and replaced by fresh earth. Phenyle solution was then sprinkled over and the floor finally covered with a layer of slaked lime.

The patients were brought to the hospitals in *dolis*, special care being always taken that they were well covered. A sweeper always accompanied the *doli* carrying diarrhoea cases with a bottle of phenyle and a pot of lime to disinfect the spots where the patient passed dejecta on the way to the hospital. **Treatment.**

The patient was at once taken into the ward after being given a dose of essential oils mixture. In extremely collapsed cases heat applications and stimulants were administered. The contacts were segregated and most of them got themselves inoculated. Those who refused were given daily doses of essential oils mixture. There were 248 inoculations done at the hospital. The class of patients admitted into the hospital was mostly of *Sādhus* of the orthodox type who would not agree to treatment easily. They preferred death in such a holy place to any treatment. In spite of there being police staff on duty to guard day and night, a good number of the patients specially of small-pox tried to run away from the hospital and two of them did abscond with hospital blankets.

Out of 134 samples of stools that were sent for bacteriological examination 44 only were positive to true cholera vibrios. Twenty samples could not be sent for examination as in these cases diarrhoea had stopped before the patient came under notice. **Examination of**

The staff at the infectious diseases hospital consisted of medical officers 3, female sub-assistant surgeon 1, midwife 1, compounders 3, cooks 2 and *kahars* 8, *doli* bearers 2, sanitary inspector 1, and sweepers 15. At the height of the epidemic of cholera 3 medical officers and 3 compounders were added to the staff. **Staff.**

Branch infectious diseases hospitals were provided only in circles VI (Jhusi) and VII (Arail). The latter also received overflow cases from the railway infectious diseases hospital at Naini.

A list showing the total quantities of disinfectants and other articles used is given as appendix XV.

Sickness and mortality.

52. The total number of cases treated in the mela hospitals was 16,304 out of which 776 were in-door patients and 15,628 out-patients.

Out of the 776 in-patients, 627 were males and 149 females. The number of admissions and deaths among the in-patients is given in the following table :—

						Admissions.	Deaths.
Cholera	..	..	..	..	..	168	105
Pneumonia	..	..	..	..	..	169	54
Other respiratory diseases		..	..	..	..	32	7
Diseases of the intestines		..	..	..	..	63	5
Dysentery	..	..	..	..	..	83	13
Diseases of the digestive system	..	..	..	..	..	6	1
Malarial fever		..	..	..	..	72	3
Small-pox	..	..	..	..	..	24	5
Tubercle of lungs	..	..	..	..	..	5	3
Injuries	..	..	..	..	..	76	3
Rheumatic fever	..	..	..	..	..	6	1
Other diseases	..	..	..	..	..	1	..
Total						776	200

Most of the cases of cholera when detected were found in a moribund condition. Among the factors contributing towards the high incidence of case mortality may be mentioned exposure to chill, strain, fasting and the reluctance to yield readily to treatment.

The outbreak of cholera in the mela area has been discussed in detail in a later chapter.

(b) The total number of deaths which occurred within the mela area in and out of hospital was 286.

The causes of deaths were :—

Cholera	..	..	..	..	..	..	105
Pneumonia	..	..	..	..	..	..	84
Tubercle and other diseases of lungs	..	..	..	..	..	..	27
Dysentery	..	..	..	..	..	..	17
Pyrexia of uncertain origin	..	..	..	..	..	..	11
Diseases of the intestines	..	..	..	..	..	..	10
Malaria	..	..	..	..	..	..	7
Small-pox	..	..	..	..	..	..	5
Other general diseases	..	..	..	..	..	..	20

Hygiene publicity work.

53. (a) The activities of the Hygiene Publicity Bureau consisted of :—

(a) A public health exhibition.

(b) Cinema and magic lantern demonstrations.

(c) Lectures and songs on personal hygiene and cholera preventive measures.

(b) Distribution of leaflets on popular hygiene subjects.

In the exhibition various models and posters giving the causes, symptoms and directions for the prevention of various epidemic diseases were displayed.

The cinema films on cholera and small-pox which showed in realistic scenes and amid familiar surroundings the causes of the spread of disease and the preventive measures were much appreciated by the public who attended them in thousands. The film "Hardwar Kumbh" was shown on successive days. Cinema-films are most popular as they provide recreation as well as education in health matters.

The loud-speakers which were fitted for the first time in the history of fairs in this province attracted huge crowds and enabled the lectures and public health songs to be heard from a distance.

Success of this branch of publicity work was practically demonstrated when many of the audience volunteered to get themselves inoculated against cholera.

Eighty-five thousand leaflets on various health subjects were distributed; and about 1,000 posters were affixed at conspicuous places, e.g., electric posts, public offices and hospitals.

(b) A Red Cross first aid station was opened at *sangam*. It rendered valuable assistance on the chief bathing days.

54. The Prayag Seva Samiti of Allahabad gave 120 volunteers for the Voluntary mela area to assist the public health staff. Their help was invaluable in agencies. many spheres of work such as detection of illness, prevention of soil pollution, removal of patients to the hospitals, removal of dead bodies to the cremation grounds and inspection of food supply.

In addition to the above, Punjab Sindh *Chhetra*, Amritsar Sewa Society and fire brigades, Amritsar Sewa Sadan, Mahabir Dal of Punjab, Bharat Sevasram Sangha of Bengal and Agarwal Sewa Samiti of Allahabad, Allahabad Swimming Association and the St. John Ambulance Corps of Allahabad University did much good and useful work.

A list of private hospitals opened in the mela area is given in appendix XVI.

55. Appendix XVII gives the distribution of officers and men of the Police on police on sanitary duty to different sanitary circles. **Police on sanitary duty.**

Appendix XVIII gives the duties of the police on sanitary duty.

The police on sanitary duty did their work well and smoothly and thus facilitated the public health operations to a great extent. It was not their fault if the *bairagis* could not be kept under control. There was, however, some delay in their reporting for duty in some of the circles.

F.—The outbreak of Cholera.

(A preliminary report on the outbreak of cholera in the Kumbh Fair was separately submitted to the Government.)

**Total seizures
and deaths.**

56. The total number of cholera cases treated in the infectious diseases hospital was 168 out of whom 105 died, giving a case mortality of 62·5 per cent.

Fifteen cases were received from outside the mela area (road posts, etc.) of whom 6 died. The remaining 153 were from within the mela area. Out of these 99 died.

57. For the purposes of this report the fair period may be divided into the following periods :—

- (a) Period of no infection : January 1 to January 27, 1930.
- (b) Period of early infection : January 29 to January 30, 1930.
- (c) Period of early spread : January 31 to February 2, 1930.
- (d) Period of general infection : February 3 to February 7, 1930.
- (e) Period of decline : February 8 to February 20, 1930.

Up to January 27, 1930, no case of cholera was detected in the mela area. On January 28, 1930, three cases with clinical symptoms of cholera were reported. The fourth case was detected on January 29 and the fifth on January 30. Out of the 5 cases admitted up to January 30, 1 had come from circle II, 1 from circle III and 3 from circle IV. Thereafter cases were reported more or less simultaneously from the mela area, the Allahabad Municipality and Chitrakot, Karwi, etc. The cases detected in the mela area were not confined to any particular circle and were very few and scattered.

Circle III and V accounted for the largest number of seizures, i.e., 52 and 45 respectively. Circle VIII reported only one seizure and circle VII none.

The highest number of seizures reported was 19 on February 7, after which date the numbers began to decline.

The daily number of seizures exceeded 10 on seven days only and was never more than 19. With an increased vigilance exercised in the carrying out of the preventive measures and the detection of cases of illness throughout the mela area, the epidemic was soon brought under control.

No fresh seizure of cholera was reported after February 14 and the infectious diseases hospital was closed from February 21, 1930.

A chart showing seizures and deaths from cholera, with particulars of rainfall and humidity, from January 28 to February 15 is given as Appendix XIX. In the plan (appendix III) the dates of first seizures of cholera in each circle are given.

**Source of
infection.**

58. (a) Out of 168 seizures from cholera, 53 had come from Bihar and Orissa Province. Out of the 3 cases of clinical cholera detected on January 28, one had arrived from Chapra and the second from Darbhanga. The third was a *bairagi* and it could not be ascertained as to where he had come from.

From the figures given below it will be observed that as many as 37 cases of cholera and suspected cholera had been detected among the pilgrims entering this province from Bihar side up to January 29 the chief bathing day :—

At Bhatni : 27 cases.

At Moghal Sarai : 3 cases (on December 23, January 28, and January 26).

At Ballia : 7 cases (2 on January 11, and 1 each on January 12, 14, 20, 22 and 24).

In addition to the above, 17 cases of cholera were intercepted at the *en route* railway stations noted below :—

Benares Cantonment : 7 (from January 20 to January 26).

Benares City : 4.

Kashi : 2.

Janghai : 1 (on January 25, 1930).

Fyzabad : 1 (on January 27, 1930), coming from Gaya.

Mau : 1.

Aunrihar : 1.

At the railway stations in Allahabad 11 cases of diarrhoea were detained up to January 29 for observation all of whom recovered. No case of cholera among the incoming passengers was reported from any of the local railway stations up to January 29, but one case of suspected cholera was intercepted on January 22 on road post no. 3 among the pilgrims coming to the fair by road.

It appears from the figures given below, taken from the *Bihar and Orissa Gazette*, that cholera was present in an epidemic form in that province throughout the month of January, 1930 :—

	Seizures.	Deaths.
Week ending January 4	272	201
Week ending January 11.. .. .	129	64
Week ending January 18.. .. .	188	114
Week ending January 25.. .. .	107	76
Week ending February 1.. .. .	2-1	129

The following table shows the numbers of cholera cases reported in United Provinces during the period January 5 to February 1, 1930 :—

During the week ending January 11 ..	12 (Basti, 1 Fyzabad 2, Pilibhit 9).
During the week ending January 18 ..	0
During the week ending January 25 ..	1 (Lucknow City).
During the week ending February 1 ..	4 (Basti 3, on January 26, 1930) and Azamgarh 1, on January 30, 1930).

The above figures show that the Province was free from cholera from January 11 to 25, except for one case in Lucknow City.

Judging from the facts that there was practically no cholera in this province after January 12 and that many cases of cholera and suspected cholera were found at the border and *en route* railway stations among the pilgrims coming from Bihar and Orissa Province where cholera was present in an epidemic form, it seems quite evident that cholera in the mela area was imported by the pilgrims coming from Bihar and Orissa Province.

(b) The gathering in the mela at the time of Sankrant was mostly from United Provinces and the Punjab and numbered about 9 lakhs, but no case of cholera occurred. Large parties of pilgrims from Bihar and Orissa and Bengal began arriving from about January 23, and the inspecting staff deputed to the railway stations in Allahabad proved inadequate to deal effectively with the great rush of incoming pilgrims. Even with the re-inforcements from the Medical Inspectors originally meant for slow passenger trains and the L.P.H. and D.P.H. students, it is very likely that the rush on the few days immediately preceding the chief bathing day was so heavy that some cases from Bihar and Orissa were not detected and infection was thus introduced into the mela area.

The great majority of the pilgrims from Bihar and Orissa came by rail.

At Karwi and Bindhachal 40 cases of cholera and suspected cholera were intercepted after January 29, of whom 22 were residents of Bihar and Orissa.

Again, out of 35 cases intercepted at Fyzabad, 25 were those who were residents of Bihar and Orissa Province.

These figures point to Bihar and Orissa Province being responsible for importation of cholera into the mela area and these Provinces.

59. It is certain that some of the pilgrims who left the mela area for Chitrakot on January 29 were already infected and developed symptoms on the way or at Chitrakot and produced a more or less generalised infection amongst the pilgrims there from January 31 to February 3. On their return a large number of the patients were intercepted at Karwi, Manikpur and Naini Junction but some pilgrims in whom the infection was still in an incubation period re-entered the mela area for bathing on the *Basant Panchami* day (February 3) and thus re-infected the mela area. This is shown by the fact that in circle no. VII (Araih) not a single local case occurred but half a dozen cases, all from Chitrakot, were sent from Naini Railway station for treatment to the branch infectious diseases hospital there.

The first two cases in circle VI (Jhusi) after *Basant Panchami* (February 3) were among those who had returned from Chitrakot.

60. The nature of the infection and the day-to-day distribution of cases, do not point to any particular source of infection within the mela area.

Re-infection
of the mela
area.

Local sources
of infection.

Had the infection been water borne the outbreak would have been an explosive one. The repeated bacteriological examinations of water samples from various places on the two rivers as well as from the different standposts did not reveal the presence of cholera vibrios. An almost complete absence of flies in the mela area shows that the infection was not fly-borne. It seems therefore certain that the infection was imported. It caused symptoms among some pilgrims and was kept alive by personal contact through soiled articles of food or fingers.

On the chief bathing days of *Amawas* and *Basant Panchami* (January 29 and February 3) when the gathering was the greatest and the congestion within the mela area had reached the maximum intensity it would appear that many new infections were caused by personal contact and with the dispersal of the pilgrims, this led to a scattered outbreak.

On January 31 and February 1 there was a rainfall of 1.18 inches accompanied by hail. This resulted in the formation of stagnant pools of water through many of which the pilgrims had to wade.

The relative humidity of the atmosphere also increased suddenly from 73 to 94 per cent.

Besides it is obvious that the surface of the soil had become polluted by the rain water flowing past the nightsoil trenches (some of which were submerged under water, urinals and rejected food stuff thrown indiscriminately by the pilgrims) and other organic matter.

These factors and re-infection from Chitrakot contributed to an increase in the number of scattered cases of cholera after February 3 (*Basant Panchami*).

Clinical history.

61. One clinical peculiarity noticed in many cases was that the onset of collapse was sudden and acute. A large number of cases was among the ill-clad and poor pilgrims. Many who developed symptoms in the night were detected in the morning in a very collapsed condition. The death-rate amongst both the sexes was the same but the incidence among the males was $1\frac{1}{2}$ times that among the females and this was mostly marked in pilgrims above 50 years of age.

Preventive measures.

62. The preventive measures adopted to check the spread of cholera were as follows :—

(a) *Detection of cases of diarrhoea inside the pilgrim enclosures, public latrines, etc.*—Cases of diarrhoea and dysentery were off and on coming to notice from the various circles of the mela from the very commencement of the fair. Though they did not show symptoms of clinical cholera (and this fact was confirmed by the bacteriological examination of samples of stools), all preventive measures adopted were those prescribed for cases of cholera.

(b) *Isolation and treatment of the cases.*—Immediately on the receipt of a report of a case of diarrhoea a *doli* equipped with blankets and a mattress was despatched to the spot along with a sweeper with disinfectants to disinfect the ground on the way to the hospital in case the patient vomited or purged. The *doli* with all its equipment was thoroughly disinfected at the hospital in each case.

(c) *Watching of contacts.*—Separate huts were provided for them and those who could be induced to agree to it, were given essential oils mixture, and inoculated.

(d) Thorough disinfection of the house, hut or tent whence patients were removed, was carried out. Several huts were burnt with this object.

(e) The conservancy arrangements within the mela area were supervised with the utmost vigilance.

(f) All suspicious collections of water inside the area and along the river banks were treated with bleaching powder.

(g) The bacteriological fitness of the tube water-supply was maintained by regularly chlorinating it with bleaching powder, and the surface wells were periodically treated with potassium permanganate.

(h) All articles of food that were exposed for sale were regularly inspected by the supervising staff and those found unwholesome were destroyed.

(i) Popular lectures on cholera and its prevention were delivered at the Hygiene Publicity Bureau camp.

(j) Anti-cholera inoculations were pushed on as far as possible,

63. Three thousand six hundred and ninety-eight anti-cholera inoculations were performed within the mela area, the majority being among contacts. All members of the Police force and many other persons on duty at the fair were inoculated either in the district from where they came or on arrival in the mela. **Anti-cholera inoculation.**

Facilities for anti-cholera inoculations existed at all the hospitals within the mela area and at all the railway stations in Allahabad and at the border and *en route* railway stations.

At the instance of the Public Health Department of this Province arrangements were made by the Governments of Bengal, Bihar and Orissa and the Punjab for the inoculation of pilgrims from their provinces.

The Public Health Department of Bombay had also arranged for anti-cholera inoculation of intending pilgrims.

The total number of persons inoculated against cholera before proceeding to the Kumbh Mela, were 6,388 from Bengal, 67,000 from Bihar and Orissa and 8,093 from the United Provinces (excluding the mela area).

64. The same organizations which were designed to check import of cases of epidemic disease into the mela area were also employed to check their export. The following table shows the number of cases of cholera and suspected cholera intercepted by each agency separately:— **Arrangements to check dissemination.**

	Cases of cholera intercepted among the out-going pilgrims.			
At the road posts	12
At local railway stations	63
At <i>en route</i> railway stations	183 (includes cases at Chitrakote.)
At border stations	31
Total ..				289

These organizations proved most valuable in checking dissemination of cholera.

More than 75 per cent. of the pilgrims who had attended on the Amawasya bathing day had left Allahabad by the evening of January 30. Some of these had caught infection which was in the incubation period and could not be detected by the road and railway inspectors. They carried the disease to the other parts of the Province.

65. The importation of cholera into a large religious festival like the Kumbh Mela to which pilgrims come from all over India is almost certain to occur as long as pilgrims from infected areas are permitted to attend the mela as they are at present. The reasons are that incubation period of the disease is from a few hours to 7 or 8 days and that persons exposed to the infection in their own villages can thus become infective, without actually showing any clinical symptoms of the disease and this type of cases is certainly infective for at least 7 days after acquiring the infection. Thus a pilgrim incubating the disease may develop symptoms either on journey to the mela, in the mela area, or on the journey back from the mela or in his own village after having visited the mela and is capable of infecting those who come in personal contact with him at any of these places. **Remarks.**

Similarly a "carrier" case may infect others on his journey either to or from the mela or in the mela. It is only necessary to inspect a pilgrim special to see how easily infection can be spread by personal contact.

If pilgrims from infected areas were absolutely prohibited from leaving their villages until at least 10 days have elapsed since the occurrence of the last case in the village, there would be little or no chance of cholera breaking out in the large fairs.

G.—Recommendation and general remarks.

Recommendation
for future fair.

66. *Magh Mela* is held every year on a sandy plot of land between the Bund and the Sangam, i.e., the confluence of the two rivers. Most of this part is under water in the rains and the place where the two rivers meet varies not only each year in *Magh* but even from time to time in the course of a year owing to cutting action of the Ganges. No improvements of a permanent nature are therefore possible on this plot of land.

Improvements of a temporary nature are however introduced every year. This year, for instance, electric light was introduced and a masonry steam disinfecter was constructed in the main infectious diseases hospital.

The following points are, however, suggested for consideration in the future fair :—

(a) There was a great congestion in some *akharas*, e.g., *Juna* and *Bara Panchayati*, this year, as the space allotted to them was insufficient for their requirements. As a result, the inmates of those *akharas* encroached upon the surrounding roads and lanes. In future it is recommended that an estimate of the number of persons likely to visit the fair should be obtained beforehand from the *mahant* of the important *akharas*. The area of land actually required for each *akhara* should then be calculated and allotted to them.

(b) The water of the river *Jumna*, and in many places of the Ganges is contaminated near the banks where the current is sluggish. In order to prevent the use of this contaminated water for drinking purposes it is essential that the water-pipes be laid so as to cover the whole area including the banks.

(c) To prevent fouling and ensure general cleanliness the electric light should be extended to all roads and the river banks.

(d) To prevent the patients from absconding it is desirable to have a proper fencing round the infectious diseases hospitals.

(e) A considerable time and energy of the staff were spent in controlling the flagged area for the *bairagis*. In future it is suggested that this flagged area should be set up a good time before the commencement of the fair and the arrival of *bairagis*. The *bairagis* will then know from the very beginning the site set apart for their use.

(f) The *Nai bara* should not be located behind or in the vicinity of the *bairagis* camps. This year the greatest difficulty was experienced in preventing the *bairagis* from using this enclosure for the purposes of nature and special police force had to be maintained to keep them out.

(g) Cleaning of the *bairagi* camp and detection of illness therein will be much facilitated if steps are taken to ensure that *bairagis* do not encroach on the conservancy lanes which though marked beforehand were again and again occupied by them. Help of the police had to be called to make the *bairagis* vacate the lanes.

(h) The payment of wages to sweepers should be made to them in the circles to which they are attached by a member of the tahsil staff. The absence of the sweepers at the tahsil for this purpose dislocates the conservancy work considerably.

(i) Mela hospitals for the pilgrims are essentially of a temporary nature and their accommodation and equipment are limited.

It is, therefore, often found necessary to remove to the Colvin Hospital, Allahabad, simple cases, as well as cases of a serious nature which cannot be properly treated in the mela hospitals.

It is recommended that provision for an increased number of beds should be made in the Colvin Hospital for the mela period.

For similar reasons an increase in the number of beds in the District Police Hospital is essential.

Notable
visitors.

67. His Excellency Sir Malcolm Hailey, M.A., G.C.I.E., K.C.S.I., I.C.S., Governor of the United Provinces visited the mela area on January 14, 1930. Among other things he inspected the General Diseases Hospital and the Hygiene Publicity Exhibition.

The Hon'ble Nawab Muhammad Yusuf, Bar.-at-Law, Minister of Local Self-Government inspected in detail all the medical and sanitary arrangements of the fair on January 22, 1930.

The Hon'ble Raja Bahadur Kushalpal Singh, M.A., LL.B., Minister of Education, went round the mela area on January 27, 1930.

The Hon'ble Captain Nawab Sir Muhammad Ahmad Sa'id Khan, K.C.I.E., M.B.E., Home Member, went round the mela area on January 30, 1930.

Major-General J. D. Grahman, C.I.E., I.M.S., Public Health Commissioner with the Government of India inspected the arrangements on January 30, 1930.

The Hon'ble Major-General Sir Henry Symons, K.B.E., C.S.I., K.H.S., I.M.S., Director-General, Indian Medical Service, inspected the mela grounds on February 5, 1930.

Dr. M. Briend, Medical Officer of International Quarantine Board, Egypt, saw the mela arrangements on February 7, 1930.

Lieutenant-Colonel J. B. Hanafin, I.M.S., Assistant Director-General, Indian Medical Service, inspected the arrangements in detail on February 10, 1930.

Kunwar Maharaj Singh, C.I.E., Commissioner of Allahabad Division, inspected in detail the medical and sanitary arrangements on January 11, 1930. He also visited the mela area on several other occasions.

Mr. W. W. Finlay, I.C.S., Officer-in-Charge, Kumbh mela, inspected the arrangements in detail on January 12, 1930 and on several other dates.

Colonel C. A. Sprawson, C.I.E., M.D., F.R.C.P., (London), V.H.S., I.M.S., Inspector-General of Civil Hospitals, United Provinces, and Colonel H. R. Nutt, M.D., F.R.C.S., I.M.S., Civil Surgeon, Allahabad, were on a visit to the mela area on January 14, 1930.

Mr. W. E. J. Dobbs, I.C.S., District Magistrate and Collector, Allahabad saw the arrangements on January 18, 1930.

His Highness the Maharaja of Benares was on a visit to the mela area on January 29, 1930.

Major S. Antia, Chief Medical Officer and Dr. K. L. Nehru, Director of Public Health, Gwalior State, visited the mela area in the month of January to inspect the medical and sanitary arrangements.

They deputed one of their assistants Dr. G. B. Pandit, M.B., B.S., to study the arrangements in detail for the Kumbh Fair to be held in Ujjain in the year 1933.

Dr. B. E. Ethirajulu, Assistant Director of Public Health, Madras Presidency and Rai Bahadur Dr. J. L. Das and Dr. Mittra, Assistant Directors of Public Health, Bihar and Orissa Provinces were also on a visit to study the arrangements of the mela.

68. (a) The conspicuous success achieved in the Allahabad Kumbh Fair was entirely due to the complete harmony which subsisted and the atmosphere of co-operation which prevailed at all times among the controlling officers of the different departments of Government and between the Government officers and the management of the non-official agencies working in the mela area. General remarks.

The credit for this is mainly due to Mr. W. W. Finlay, I.C.S., who was most courteous and ever ready to help every one. He looked into the details of every matter in trying to meet the legitimate wishes of all.

He deserves the thanks of the department.

(b) Mr. W. E. J. Dobbs, I.C.S., District Magistrate, took great personal interest in the organization of the mela arrangements in general and of the sanitary and medical arrangements in particular.

(c) Thanks of the department are specially due to Kunwar Maharaj Singh, C.I.E., Commissioner of Allahabad division, who visited the mela area on several occasions and studied minutely all the medical and sanitary arrangements.

On the conclusion of the mela he sent to Dr. K. P. Mathur, Assistant Director of Public Health, in charge of the mela the following letter :—

“As the Kumbh mela is now over, I write to express my high appreciation of the very good work done by you and the officers and staff working under you during the mela. The sanitary arrangements were unusually good, and though unfortunately cholera broke out towards the end of the mela, the outbreak was due to causes beyond your control.”

(d) Mr. Jai Narain Tandan, Manager of the Kumbh mela, helped the sanitary and medical staff in every possible manner.

(e) Mr. B. G. Smith, O.B.E., Divisional Superintendent, E. I. Railway, Allahabad, sent the following demi-official letter to Rai Bahadur Dr. K. L. Chaudhri, O.B.E., Assistant Director of Public Health, I Range, United Provinces :—

“Your D.-O. no. 359-60 of February 18, 1930.

I am very grateful to you for the assistance you have given to the Railway in connection with the Kumbh mela. The inspection of incoming and outgoing pilgrims was carried out in a thoroughly satisfactory manner and caused no inconvenience to us or to the passengers; also the supervision on trains was carried out in an equally satisfactory manner.

The help we received in connection with sanitation was valuable, and due to this our stations were never cleaner or more sanitary than during the period when unprecedented numbers of passengers were passing through these stations. I attribute this success very largely to the keen interest taken by you personally in the work and the practical help you have rendered us.

It is very satisfactory to learn that the measures adopted had succeeded in arresting the spread of cholera.

With many thanks for all that you have done.”

69. (a) Lieutenant-Colonel C. L. Dunn, C.I.E., D.P.H., I.M.S., Director of Public Health, United Provinces, inspected the mela area on several occasions before the commencement of the fair and gave directions wherever necessary to the Assistant Director in charge of the fair. He was present at the fair from January 12 to 19, and again from January 27 to 31, and personally directed the arrangements on the chief bathing days.

(b) All officers of the Public Health department, who were on Kumbh Fair duty, maintained a helpful and sympathetic attitude towards the pilgrims and other persons. They performed their duties at all times whole heartedly and with the utmost devotion, firmness, consideration and courtesy and discharged them in such a manner as interfered as little as possible with the movements, comfort and convenience of the pilgrims, many a time under very difficult and trying conditions. They worked in co-operation with members of the other departments.

One and all deserve the highest praise.

The names of those whose work was of outstanding merit have been submitted, separately, for special recognition.

Statement of
expenditure.

70. A statement showing the expenditure incurred by the Assistant Director of Public Health, III Range, United Provinces, out of the grants placed at his disposal to meet the charges on account of the entertainment of the staff temporarily employed in connection with the medical inspection of pilgrims attending Kumbh Fair, 1930, and to meet the cost of construction, equipment and running expenses of the segregation hospitals constructed in the III Range is attached herewith (vide appendix XX).

K. P. MATHUR,
Assistant Director of Public Health,
III Range, United Provinces.

APPENDIX I.

The mythological origin and spiritual significance of the Kumbh.

In very ancient times when even the gods were mortal, Lord Vishnu, in order to make them immortal, advised them to churn the ocean in search of *amrit* (nectar).

The *devas* (gods) and *danavas* (demons) gathered together to churn the ocean at *kshirod sagar* (ocean of milk) at the foot of the Himalayas.

Mount *Mandar* formed the churning rod, *Basuki* the serpent king was the rope and *Mahakurma* the tortoise made the base.

Vishnu himself held Mount *Mandar* the churning rod in his mighty arms.

The *devas* seized *Basuki* by the head and the *Danavas* seized him by the tail and thus the churning commenced.

During the churning process first appeared *Pushpak* (the chariot), then *Airavat* (the elephant), *Parijat* (the heavenly flower), *Vina* and other musical instruments, then *Urvashi*, *Menaka* and *Rambha* (the eternal youthful dancer trio); then the Moon and the Rainbow; then *Kamdhenu* (the cow) and *Uccharisaraba* (the horse), and finally came out Lakshmi (the goddess of prosperity). Last of all arose *Dhanvantari* holding in his hands the most beautiful and the most longed-for Kumbh or pitcher brimful of nectar. *Kumbh* means a pitcher. It is the symbol of the spirit of blessing, prosperity, happiness and peace. The gods wishing to have all the nectar to themselves asked *Jayanta* (God of wind) to fly away with the *Amrit Kumbh*. The demons being overpowered by the venom of *Basuki* were not aware of what was going on, but their leader Shukra came to know of it and asked them to follow *Jayanta*; *Jayanta* ran for twelve days and twelve nights and in twelve directions, but in the end getting tired and weary, was overtaken by the demons.

2. The demons then started fighting among themselves as to who should be the first to drink his share. In the midst of this confusion appeared Lord Vishnu in the form of a beautiful damsel and by that eternal feminine trickery cheated the demons and distributed the nectar among the gods.

During the twelve days' chase between the gods and the demons the *Amrit Kumbh* itself dropped twelve times from their hands in twelve different places and these spots thus became eternally holy. And when it dropped it was *Surya* (Sun), *Chandrama* (Moon), *Vrihaspati* (Jupiter) and *Sani* (Saturn) who protected it from breaking and the nectar from spilling out and thus whenever these constellations meet, gods and men gather on those holy spots and celebrate the eternal *Kumbh* day.

Now one day of heaven is equivalent to one full year on earth and thus the twelve *Kumbh* yogas take place in twelve years in twelve different spots of which 8 are in heaven and 4 only on earth.

These latter are Hardwar, Prayag (Allahabad), Nasik and Ujjain where the *Kumbh* is celebrated every three years in cyclic order so that each of them has its *Kumbh* day once in twelve years.

As the gods also celebrate the *Kumbh* day just as men do, they too come down and bathe in the holy waters along with men, although unseen; and this is the reason why millions resort to pilgrimage places to bathe in the same water and at the same time as the unseen gods.

3. Allahabad under its ancient name Prayag (which means the place of sacrifice) has been held from very ancient times to be a most sacred spot by the Hindus. It has been given the title of *Tirthraj*, the king of pilgrimage places.

It is said that it was at Allahabad that the God Brahma performed an *Aswamedh* or horse sacrifice to commemorate the recovery of the four vedas (the oldest scriptures of the Hindus) from a demon called Sankhasur.

4. The spiritual importance of the confluence is referred to in Hindu sacred literature, beginning with the first sacred record of the Arvan race in the *Rig Veda*. In the *Matsya Puran* we have chapters entitled Prayag

Mahatmya, i.e., the greatness of Prayag. In this work which is acknowledged as a religious guide to Prayag bathing at the confluence of rivers is prescribed as the primal duty of every pilgrim and the author relates at great length the holy character of the rivers from which the city derives sanctity.

The Ramayana, the great epic poem of the Hindus, contains an allusion to Prayag. During the self-imposed exile Rama, accompanied by his brother Lakshman and his wife Sita, visited the famous town of Prayag and the *akshaiwat* or undying fig or banyan tree. Subsequently Bharat, the brother of Rama, was entertained by saint Bharadwaj on the high bank overlooking the junction of the Ganges and Jumna.

5. The great festival days are :—

- (1) *Makar Sankrant*.—The day when the sun enters the region of Capricornis (i.e., Makar).
- (2) *Amawas*.—The fifteenth or the new moon day of the month of *Magh*. This is the chief bathing day.
- (3) *Basant Panchmi*.—The fifth day of the second or light half of the month of *Magh*.
- (4) *Achla Saptmi*.—The seventh day of the second or light half of the month of *Magh*.
- (5) *Ekadashi*.—The eleventh day of the second or light half of the month of *Magh*.
- (6) *Purnamashi*.—The thirtieth of *Magh* or full moon day.

Of these, numbers (4) and (5) are less important than the others.

Though the above are the great bathing days, the whole of the month of *Magh* is considered sacred and the orthodox among the pilgrims bathe daily at the Triveni Sangam, keep fast by day and abstain from eating grain food throughout the month. They live for the whole period along the banks of the river and are known as *Kalap Basis* or “those who have resolved to abide”.

6. A pilgrim is, on his arrival at Prayag, received by an authorized class of local priests known as *pragwals*. There is a practical monopoly of conducting pilgrims in the hands of this class; each member has his group of clients duly registered in his books (arranged by castes and provinces and localities), the attachment of families to priests and their descendants being hereditary. For the registration of the new comers whose parents or guardians had never visited Prayag there is generally great competition among the agents of the *pragwals* who attend the railway stations in or close to Allahabad.

Every *pragwal* family has its distinguishing emblem painted on a flag which is erected over the place where the *panda* (priest) sits on the banks of the Ganges.

Well-to-do pilgrims are accommodated by their *pragwals* in *pakka* houses in the neighbouring muhallas of Daraganj and Kydganj. Those who are less well off are accommodated in the temporary thatched huts erected along the river bank. The vast majority, however, stop on the sandy plain under the open sky.

7. Religious ceremonials at the confluence consist of (a) shaving, (b) bathing, (c) offering accompanied by incantation of *sankalp*, (d) visit to other sacred places in Prayag, and (e) *suphal*.

(a) Even on the great days, when lakhs of people attend, the bathing is practically over by midday. The pilgrims reach the river bank as early as possible in the morning and go to the platforms of their particular *pragwals*. Thence the pilgrim is sent to barbers' quarters (*Naibara*, *nai*, meaning barber), where he is shaved. The extent of this process varies, residents of Allahabad are not obliged to have their heads shaved. Again, a man whose father is alive will not have his moustaches shaved. Again, the unmarried and married women, as a rule, only allow one lock to be cut off. while widows are shaved entirely, but women from the south shave their whole head even if they have their husbands living. Lastly, a Sikh will only allow a small piece of his pigtail to be touched. The barber's usual fee is one anna. Those who cannot afford to pay anything go for their shaving to a place some distance away. The hair is tied up into bundles and taken away by the authorities in boats, and thrown into a deep part of the river.

(b) Having thus purified himself by shaving, the pilgrim is taken by the priest to the river, to perform the bathing ceremony for which he has come from a long distance. Properly speaking he should bathe exactly where the rivers meet. If the confluence is difficult to reach by foot, boats are engaged by those who can afford to do so, the others contenting themselves with a bath in the Ganges. Before he takes his plunge, the bather repeats after his *pragwal* a Sanskrit incantation *sanklap*: "Salutation to Vishnu God—the First and Ancient Primeval Being, I (so and so) perform the bathing ceremony in *Tribeni* to destroy all sins which I may have committed in thought, word or deed on this (here the day, date and month are repeated)."

(c) At the same moment the devotee makes an offering to his priest. Generally it is only one or more annas; occasionally, a goat, cow, horse or elephant. Fruit also, specially a cocoanut, is an efficacious present. The presentation of offerings is an integral part of all acts of worship.

As special virtue attaches to the gift of a cow, an ingenious ceremonial has been established, according to which a hired cow can be presented by a pilgrim who is too poor to buy one outright. The pilgrim hires a cow for a small sum. Holding the animal by the tail he repeats the incantation detailed above. Then, instead of giving the cow to his *pragwal* he presents him with money according to his means. The cow reverts to its owner, but the pilgrim is considered to have made the sacred gift. Many also offer to the river gifts of milk and flowers; and numerous sellers of these articles do a brisk trade at the Sangam, often standing up to their waist in water until midday.

(d) Shaving, bathing and giving of gifts to the priests having been completed, the main duties of a *Magh Mela* pilgrim are over. But Prayag contains numerous other sacred temples and shrines, and few pilgrims would think of returning home without paying visits to some of them.

The most important places are:—

- (1) Patalpuri temple containing the *akshaivat* tree;
- (2) Bhardwaj temple;
- (3) Alopī Shankari Devi temple; and
- (4) Sheokoti Mahadeo temple.

Below is given the history of the most famous of them:—

The *akshaivat* tree or "imperishable fig tree", now an old stump, is situated in an underground passage inside the Fort. It is remarkable, that although self-destruction is declared to be a heinous sin in the Hindu scriptures, it is held to be a deed of piety when committed at the confluence of the holy streams in Prayag. In ancient times, the *akshaivat* tree stood above a well, called *Kanniya Kup* (the well of desire), and it was then a common practice for the devotees to commit *deh-tyag* or self-destruction by casting themselves from the tree into the well. One can only suppose that the well was considered to be connected subterraneously with the sacred streams. The Chinese scholar and traveller Hiuen Tsiang who visited Prayag in 644 A. D. was very much struck with the extent to which suicides were prevalent at Prayag and says that it was practised as frequently at the *akshaivat* as at the confluence. "If in this temple," he says, "a person is able to condemn life, so as to put an end to himself, then he is born to eternal happiness in heaven. Before the hall of the temple is a great tree with spreading boughs and branches and casting a deep shadow. There was a body-eating demon here who, depending on this custom (i.e., of committing suicide), made his abode here. Accordingly, on the left and right one sees heaps of bones. Hence, when a person comes to this temple, there is everything to persuade him to despise his life and give it up . . . From very early days until now this false custom has been practised."

The tree referred to above is, of course, the *akshaivat*. Later on he gives an account of sacrifice of body or *deh-tyag* at the confluence of the rivers:— "To the east of the enclosure of charity at the confluence of the two rivers every day there are many hundreds of men who bathe and die. The people of this country consider that, whoever wishes to be born in heaven, ought to fast to a grain of rice, and then drown himself in the waters. For, by bathing in this water, they say, all the pollution of sin is washed away and destroyed. Therefore, from various quarters and distant regions people come together and rest. During seven days they abstain from food, and

afterwards end their lives. And even the monkeys and mountain stags assemble here in the neighbourhood of the river; and some of them bathe and depart, others fast and die."

The well was filled up under the orders of the Emperor Akbar who cut down the tree and built the present Fort around it.

(c) *Suphal*.—Having bathed at the Sangam and visited any other temples and sacred places that he wishes to see, the pilgrim returns to his *pragwal*, to whom he has now to make one more present, the parting fee or *bidai*. The *panda* (or priest) exacts as much as he considers his *Yajman* (client or pilgrim) can afford, and then, slapping his customer, who kneels before him, three times on the back, he pronounces *suphal*, that is, he declares him to have meritoriously performed all the religious rites. The pilgrim then returns to his home.

APPENDIX II.

Statement of daily figures of inward and outward passengers and pilgrim specials, Kumbh Mela, Allahabad, 1930.

Date and month.			Allahabad Junction.				Allahabad Sangam.				Naini.				Prayag.				Prayag Ghat.				Phaphamau.				Allahabad City.				Izat Bridge.				Jhusi.				Total.			
			Passengers.		Specials.		Passengers.		Specials.		Passengers.		Specials.		Passengers.		Specials.		Passengers.		Specials.		Passengers.		Specials.		Passengers.		Specials.		Passengers.		Specials.		Passengers.		Specials.					
			In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.	In-ward.	Out-ward.						
January	7	..	3,575	1,707	103	16	543	286	761	335	1,274	105	203	317	342½	121	131	227	132	6,031	3,204½
Do.	8	..	10,756	1,807	293	36	3	3	425	233½	727	327	1	..	1,434	77	153	414	429½	967	132	240	105½	15,336	3,288½	4	3
Do.	9	..	7,355	2,361	1	..	946½	45	5	4	1,123	283	521	356	1	..	2,003	103	133	464	354½	706	91	392	103	13,703½	3,631½	7	4
Do.	10	..	9,756	3,247	5	..	3,061	115	9	9	2,166	334½	2	..	653	303	1,816	85	145½	539	273	157	219	239	153½	13,605	4,695	16	9
Do.	11	..	12,139	6,392	5	..	6,302	352	9	9	5,900	442	6	..	751	430½	3	..	5,178	118	175½	203	370	601	195	311	125	31,494	8,132	23	9
Do.	12	..	15,376	8,357	7	..	7,343	443	12	12	6,317	531	10	..	658	373½	2	..	4,429	118	202	17	436½	473	311	430	127	34,711	10,811	31	12
Do.	13	..	10,644	5,622	3	..	4,528	665	10	10	4,291	817	5	..	807	550	2	..	3,351	41	194	237½	3	483	841	196	533	133½	25,292	8,715	20	10
Do.	14	..	6,404	16,850½	..	4	3,178	6,603	9	9	1,226	5,855	2	..	431	1,434½	2	4	1,449	2,310	314	493½	33	539½	334	1,864	1	1	373	422½	13,642	36,922	14	18
Do.	15	..	3,157	15,123	..	4	318	3,107	3	6	293	5,319	434	1,253½	..	6	203	4,223½	135	233½	33	1,338½	..	1	149	3,129	1	3	153	959	4,895	31,731	9	20
Do.	16	..	2,466	10,034	..	3	256	3,174	7	7	396	3,168	466	373½	..	5	70	3,653½	113	300½	17	1,438	1	1	330	4,597	..	2	200	919	4,369	8,557½	8	13
Do.	17	..	3,565	9,665	..	1	345	2,413	6	6	454½	1,777½	418	810½	..	1	127	2,019	230	257	22	874	1	..	314	2,128	..	2	164	1,120	5,669½	19,464	7	10
Do.	18	..	3,954	5,951	..	1	292	1,399	6	6	633½	992	466	651½	454	934½	159	219	2	655	266	1,143	..	1	233	423	6,879½	12,363	6	8
Do.	19	..	3,939	4,763	566	1,129	7	7	1,164	724½	363	324	340	766	106	222½	5	435½	534	1,115	350	553	7,367	10,097½	7	7
Do.	20	..	3,769	3,855	..	1	530	604	6	6	1,017	653	523	394½	..	1	676	530	115	233	22	437	574	497	293	337	7,509	7,683½	6	8
Do.	21	..	4,420	3,819	438	446	5	5	1,351	786	606	375	839	278½	151	270	491½	1,407	523	503	314½	9,670	7,103½	5	5
Do.	22	..	4,023	3,573	630	515	6	6	1,253	738½	505	416½	1,217	189	134	212	3	345	1	1	1,903	340	263	221½	9,939	6,449½	7	7
Do.	23	..	4,743	4,558	594	327	6	6	1,780	1,074½	434	403½	1	..	2,168	218½	134	173	442½	2	2	2,774	231	1	..	234	256	17,661	7,984	10	8
Do.	24	..	8,040	4,341	2	..	1,955	384½	9	8	3,337	829½	654	454	1	..	4,765	232½	165	233	500½	1	1	5,245	274	1	..	360	207½	24,556	7,956	14	9
Do.	25	..	13,903	6,760	7	..	4,231	858	12	14	7,221	823	1	..	940	553	6	..	13,377	243½	330	250	5	331	1	1	6,940	337	2	..	507	313½	47,510	10,579	29	15
Do.	26	..	19,504	8,000	16	..	6,140	1,591	13	14	10,125	834	2	..	1,410	465½	9	..	19,733	324	536	291	625	1	1	5,047	402	5	..	903	167	76,103	12,727½	43	15
Do.	27	..	34,416	13,316	19	..	12,051	2,533	19	18	10,103	1,093	7	..	2,505	537½	15	2	29,323	631	1,135	414	2	475½	1	1	7,013	409	7	..	1,073	243	97,644	20,207	63	21
Do.	28	..	34,139	20,258	21	..	13,074	4,632	20	20	9,157	1,465	11	1	3,089	933	16	2	30,250	374	933	1,597	3	706	2	2	8,356	913	6	..	1,993	551	105,999	32,019	76	25

ALLAHABAD KUMBH MELA

1930

SCALE 320 FEET TO 1 INCH



CIRCLES	I	II	III	IV	V	VI	VII	VIII
MEDICAL OFFICER OF HEALTH	1	1	1	1	1	1	1	1
SANITARY INSPECTORS	3	3	6	3	3	3	2	2
VACCINATORS	4	5	5	4	4	4	3	5
JAMADARS	4	4	4	4	4	4	3	2
MEDICAL OFFICER OF HOSPITAL	2	1	1	1	1	2	2	1
COMPOUNDERS	2	1	1	1	1	2	2	1
SWEEPER GANGS	13	29	31	21	27	13	6	8
POLICE SUB INSPECTOR	1	1	1	1	1	1	1	1
HEAD CONSTABLE	1	1	1	1	1	1	1	1
CONSTABLES	9	25	24	25	25	8	6	3
CHOWKIDARS	20	30	70	40	40	25	15	15

REFERENCES

LATRINE WITH NUMBER	1
URINAL	1
RUBBISH PIT	1
SERVICE TANK	1
STAND POST	1
FIRE HYDRANT	1
MEDICAL INSPECTION POST	1
PLACE & DATE OF 1ST CHOLERA SEIZURES	1
RESIDENT POPULATION	1
ON AMAVAS DAY 25th JANUARY 1930	1

PREPARED
IN
OFFICE OF EXECUTIVE ENGINEER
II DIVISION P.H.D.
ALLAHABAD.

Sd/- K. P. MATHUR
ASSISTANT DIRECTOR OF PUBLIC HEALTH
III RANGE

APPENDIX IV.

Statement of the staff on medical inspection posts and arrangements for the reception and treatment of infectious cases at the border and en route railway stations.

Serial number.	Name of railway station.	Staff.				Arrangements for the reception and treatment of infectious cases.
		Travelling dispensaries.	Medical officers.	Kabars.	Sweepers.	
A.—Border railway stations.						
1	Saharanpur, North-Western Railway	1	1	3	1	Patients were sent to the Municipal Infectious Diseases Hospital.
2	Ghaziabad, ditto ..	1	1	3	1	Ditto.
3	Muttra, Great Indian Peninsula Railway.	1	1	3	1	Ditto.
4	Jhansi, Great Indian Peninsula Railway.	1	1	3	1	Ditto.
5	Manikpur, Great Indian Peninsula Railway.	1	1	3	1	The railway had erected a segregation hut of 4 beds which was manned and equipped by Public Health department.
6	Moghal Sarai, East Indian Railway	1*	3	6	1	Segregation hut of "A" class was provided.
7	Bhatni, Bengal and North-Western Railway.	1	1	4	1	Ditto.
8	Gorakhpur, Bengal and North-Western Railway.	1	1	4	1	Ditto.
9	Ballia, Bengal and North-Western Railway.	1	1	3	1	Ditto.
B —En route railway stations.						
1	Cawnpore, East Indian Railway ..	..	2	3	1	A segregation hut of "B" type was provided.
2	Ajodhia, ditto ..	..	2	3	1	Infectious cases were sent to the Municipal Infectious Diseases Hospital.
3	Fyzabad, ditto ..	..	2	3	1	Ditto.
4	Partabgarh, ditto ..	..	2	3	1	Ditto.
5	Unchahar, ditto ..	1	..	..	..	A segregation hut of "B" type was provided.
6	Shahganj, ditto ..	..	2	3	1	Ditto.
7	Jaunpur, ditto ..	..	2	3	1	Infectious cases were sent to Municipal Infectious Diseases Hospital.
8	Janghai, ditto ..	..	3	4	1	A segregation hut of "B" type was provided.
9	Kashi, ditto ..	..	2	4	2	Infectious cases were sent to Municipal Infectious Diseases Hospital.
10	Bindhachal, ditto ..	..	2	3	3	Ditto.
11	Karwi, Great Indian Peninsula Railway.	..	2	3	1	The railway had constructed a segregation hospital which was manned and equipped by the Public Health department.
12	Banda, Great Indian Peninsula Railway.	..	1	2	1	
13	Chitrakot, Great Indian Peninsula Railway.	..	1	2	1	
14	Bharatkup, Great Indian Peninsula Railway.	..	1	2	1	

* And one Special Health Officer.

Serial number.	Name of railway station.	Staff.				Arrangements for the reception and treatment of infectious cases.
		Travelling dispensaries.	Medical officers.	Kahacs.	Sweepers.	
	<i>B.—En route railway stations—</i> (concluded).					
15	Benares City, Bengal and North-Western Railway.	..	2	6	2	Infectious cases were sent to the Municipal Infectious Diseases Hospital.
16	Mau Junction, Bengal and North-Western Railway.	..	2	3	1	A segregation hut of "B" type was provided.
17	Aunrihar, Bengal and North-Western Railway.	..	2	3	1	Ditto.
18	Chilh, Bengal and North-Western Railway.	..	2	3	1	Ditto.
19	Gonda	1	..	2	1	Ditto.
20	Mankapur	1	..	2	1	Ditto.
21	Ajodhyaghat	1	1	2	1	Infectious cases were sent to the Municipal Infectious Diseases Hospital. If necessary, infectious cases were sent to the Infectious Diseases Hospital, Ajodhya, also.
	Lakarmandighat		1*			
22	Benares Cantonment Junction, East Indian Railway and Bengal and North-Western Railway.	..	2	8	2	Infectious cases were sent to the Municipal Infectious Diseases Hospital.

* Sanitary Inspector.

NOTE.—1. Class "A" hut includes two chappar huts (male and female) of four beds each two single chappar huts with one bed each and one kitchen and latrine (male and female).

2. A segregation hut of "B" type includes two chappar huts (male and female) of two beds each and one kitchen and one latrine (male and female).

The staff of travelling dispensary consists of one medical officer, one khalasi and one coolie.

APPENDIX V.

Statement showing medical and sanitary arrangements at railway stations in Allahabad for the Kumbh Fair, Allahabad, 1930.

Railway stations.	Pilgrim inspecting staff.						Hospital and segregation huts.										Sanitary staff provided by railway authorities.					Staff of the municipality to supervise carriage of infectious cases.		Sewa Samiti arrangements for carriage of infectious cases.	
	From January 1, 1930 (for platforms and gates).		From January 10, 1930 (for pilgrim pens).		Number of police constables to assist medical inspection.	Type.	Staff.		Type.	Of the railway.				Sanitary Inspectors.	Jamadars.	Sweepers.	Doms.	Bhistis.	Inspectors.	Jamadars.	Number of stretchers.	Number of stretchers-bearers.			
	Medical inspectors.	Vaccinators.	Number of pens.	Medical inspectors.			Vaccinators.	Sub-Assistant Surgeons.		Sub-Assistant Surgeons.	Compounders.	Medical menials.													
													Kahars.										Sweepers.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1. Allahabad Sangam	4	8	4	3	3	4	..	..	..	First-aid hut..	..	1	1	..	1	6	90	1	8	..	..	4	12
2. Allahabad Junction.	2	4	5	4	4	2	..	..	..	First-aid hut and General hospital.	..	1	1	..	2	7	86	1	10	1	2	4	10
3. Naini Junction ..	2	4	6	3	3	2	..	..	..	Infectious diseases hospital with 14 beds.	1	2	3	5	1	8	51	1	6	..	..	4	12
4. Prayag Ghat ..	4	8	4	3	3	4	..	..	..	First-aid hut..	..	1	1	..	1	5	63	1	10	1	2	4	12
5. Prayag ..	2	4	5	3	3	2	..	..	..	First-aid hut and railway dispensary.	..	2	2	2	..	5	53	1	8	..	2	2	10
6. Phaphaman ..	3	6	4	2	2	3	"B" type huts with four beds.	1	1	First-aid hut	..	1	1	..	..	4	43	1	6	..	..	2	10
7. Allahabad City ..	2	4	..	..	..	2	..	..	..	..	..	..	..	..	1	1	19	..	..	..	2	..	..
8. Izat bridge ..	4	8	3	2	2	4	..	..	..	..	..	..	..	..	..	1	20	..	..	1	2	..	..
9. Jhusi..	3	6	..	..	..	3	"B" type huts with four beds.	1	1	..	..	..	..	..	..	1	9	..	..	..	..	..	..
Total ..	26	52	31	20	20	26		2	2		1	8	9	7	6	38	434	6	48	3	10	20	66		

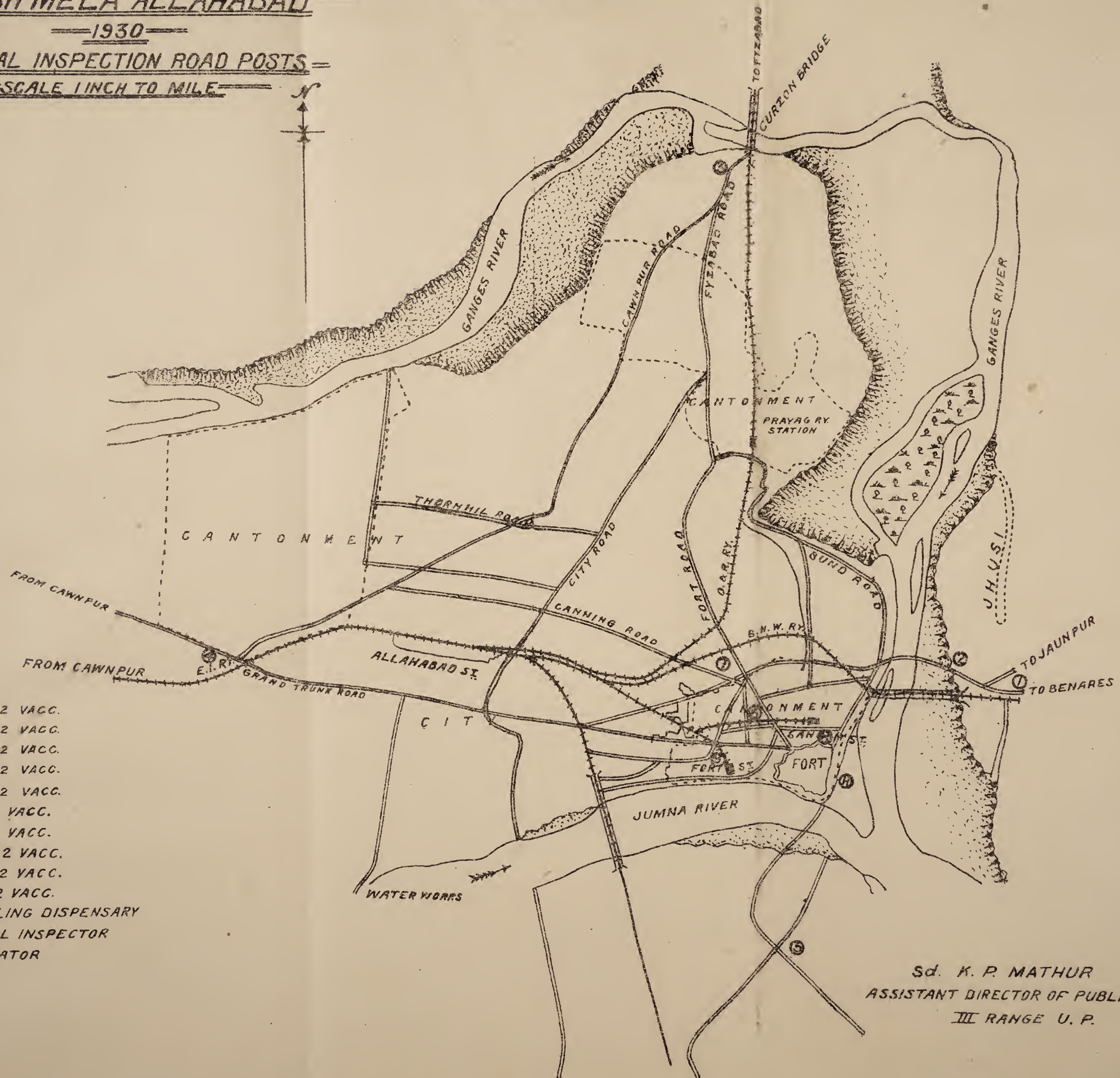
A segregation hut of "B" type includes:—
Two chappar huts of two beds each (male and female).
One kitchen and one latrine (male—female).

KUMBH MELA ALLAHABAD

1930

MEDICAL INSPECTION ROAD POSTS

SCALE 1 INCH TO MILE



- ① T. D. WITH 2 VACC.
 - ② T. D. WITH 2 VACC.
 - ③ T. D. WITH 2 VACC.
 - ④ T. D. WITH 2 VACC.
 - ⑤ T. D. WITH 2 VACC.
 - ⑥ 2.M.I.s. WITH 2 VACC.
 - ⑦ 2.M.I.s. WITH 2 VACC.
 - ⑧ 2.M.I.s. WITH 2 VACC.
 - ⑨ 2.M.I.s. WITH 2 VACC.
 - ⑩ 2.M.I.s. WITH 2 VACC.
- T. D. - TRAVELLING DISPENSARY
M. I. - MEDICAL INSPECTOR
VACC. - VACCINATOR

Sd. K. P. MATHUR
ASSISTANT DIRECTOR OF PUBLIC HEALTH
III RANGE U. P.

APPENDIX VII.

Special mela regulations.

GOVERNMENT NOTIFICATION.

December 20, 1929.

No. 975/XVI(P.H.)—182.—Whereas the Governor, acting with his Ministers, is satisfied that the Kumbh mela area at Allahabad is threatened with the outbreak of cholera on the occasion of the fair through the pilgrims attending the mela from infected parts of this and other provinces of the country on the occasion of the fair, and that the ordinary provisions of the law for the time being in force are insufficient to meet the emergency, he has been pleased to make the following temporary regulations under section 2A of the Epidemic Diseases Act, 1897 (III of 1897), as amended by Act no. XXXVIII of 1920, and it is hereby ordered that the regulations shall apply to the Kumbh mela area as defined in regulation no. 1(b), and that they shall remain in force for a period of two months, with effect from January 1, 1930 :—

THE REGULATIONS.

Kumbh Fair, Allahabad, 1930.

TEMPORARY REGULATIONS UNDER THE EPIDEMIC DISEASES ACT, 1897 (III OF 1897), AS AMENDED BY ACT NO. XXXVIII OF 1920.

For the purposes of these regulations—

1. (a) The Assistant Director of Public Health, III Range, United Provinces shall be the officer in sanitary and medical charge of the Allahabad Kumbh Fair, 1930.

(b) The Kumbh mela area may be taken to include the beds of the two rivers lying within the right bank of the Jumna and left bank of the Ganges extending upwards to the Jumna Bridge on one hand and the Izat Bridge on the other and downwards to about half a mile below the *Sangam*. It will also include the villages Jhusi and Arail and the area above bund lying between the Grand Trunk and Fort Roads and also Alopī Bagh.

A.—Removal of patients to hospitals.

1. When a case of cholera, suspected cholera, small-pox, plague, influenza or relapsing fever has occurred in any hut, building or enclosure within the mela area, the owner or occupier thereof, or the person in charge of, or in attendance on the sick person, shall give immediate information to the medical officer of health of the circle.

2. When in the opinion of the officer in sanitary and medical charge of the fair a person is suffering from cholera, small-pox, plague, influenza or relapsing fever and such officer considers that the patient cannot himself make proper arrangements for his isolation and treatment, the officer in sanitary and medical charge may order his removal to a segregation hospital or hut for segregation and treatment, and may also either himself or by his subordinates take such steps as may be necessary for carrying it into effect.

3. The officer in sanitary and medical charge of the fair may also remove to a segregation hut or hospital any person who is in his opinion liable to spread cholera, plague or small-pox because of having been in contact with persons suffering from that disease.

B.—Prohibition of infected persons from entering public vehicles.

1. No person suffering from cholera, small-pox or plague shall enter or shall be permitted by the driver or the person in charge of the vehicle to enter any public vehicle plying for hire unless he has engaged the whole conveyance for himself and his attendants.

2. When a conveyance has been entered by a person suffering from any of the above diseases, the officer in sanitary and medical charge of the fair, the medical officer of health in charge of the circle or sanitary inspector

may require the conveyance to be disinfected immediately after the arrival at its destination, and may also forbid any passenger from entering it until it has been completely disinfected.

3. The disinfection shall be carried out by the driver or the person in charge of the vehicle in such manner as the sanitary authorities may direct. Upon failure of such person to do so, the sanitary authority mentioned above may disinfect the vehicle themselves or by their subordinates.

C.—Disinfection of the infected clothing and private dwellings.

1. Upon the death or recovery of a person who has been suffering or has been suspected to be suffering from cholera, small-pox, plague, influenza or relapsing fever, the officer in sanitary and medical charge of the fair, the medical officer of health of the circle or the sanitary inspector may order the disinfection of the infected premises, latrines, etc., and of all clothing, bedding and furniture which may have been in contact with the patient in such manner as they consider necessary. Upon failure of the persons concerned to carry out the necessary disinfection, the above officers may do it themselves or through their subordinates.

2. Articles which are soiled and cannot be otherwise disinfected properly should be burnt under the authority of an officer not below the rank of a sanitary inspector. Compensation, if any, payable for such articles shall be determined by the officer in charge of the fair.

D.—Disinfection and protection of water-supply.

1. All members of the public health staff deputed to the fair may, without notice and at any time, inspect and disinfect any well, tank or other place within the fair area from which the water is or is likely to be taken for the purpose of drinking.

2. All public health officers of rank not inferior to that of a sanitary inspector may also enter any private building or land with or without assistance to disinfect any well, tank or other place within the fair area from which the water is taken for drinking, provided that—

(a) no building which is used as a human dwelling shall be so entered except with the consent of the occupier thereof, without giving the said occupier not less than one hour's previous written notice of the intention to make such entry;

(b) sufficient notice shall be given in all cases to enable the inmates of an apartment appropriated for females to remove to some part of the premises where their privacy need not be disturbed; and

(c) due regard shall always be had to the social and religious usages of the occupants of the premises so entered.

3. When the water of any water-course, tank, well or other place is, in the opinion of the officer in sanitary and medical charge of the fair, unfit for drinking by reason of its contamination or other cause, such officer may require the owner or person having control thereof, by written notice, to desist from so using such water or permitting others to so use it, and if after one hour of receipt of such notice such water is used by any person for drinking, such officer may temporarily enclose or fence in such sources of water supply in such manner that the water thereof may not be so used.

4. The officer in sanitary and medical charge of the fair may also close all sources of water supply within the fair area and may arrange for the supply of all water for drinking purposes only from certain sources—well, tank or hydrant—public or private—through persons specially appointed for the purpose and may not allow other persons to draw water from such sources.

E.—Prohibition of the sale of articles of food.

1. All officers of the Public Health department not below the rank of sanitary inspectors may, without notice, at any period of the day and night, enter into and inspect a shop, stall or place used for the sale of food or drink or for the sale of drugs and inspect or examine any article of food or drink or any drug which may be therein.

2. The officer in sanitary and medical charge of the fair may prohibit the sale of any article of food which in his opinion is likely to spread cholera or may specify the conditions under which such articles may be sold, for instance,

that certain fruits shall not be sold in overripe condition or that sweetmeats or other articles of food shall not be exposed to sale without being reasonably protected from dust and flies.

3. When the above prohibition has been enforced in the case of any article of food, the above officer or any person authorized by him may seize and destroy such article if exposed for sale. No compensation shall be payable in such cases.

4. No person suffering from an infectious, contagious or loathsome disorder shall—

- (a) make or offer for sale an article of food or drink for human consumption or a medicine or drug, or
- (b) wilfully touch any such article, medicine or drug when exposed for sale by others, or
- (c) take any part in the business of washing or carrying soiled clothes.

F.—Prevention of pollution of rivers, tanks, etc.

1. The officer in sanitary and medical charge of the fair may prohibit the burial of corpses within the fair area, throwing of dead bodies in rivers or collection of water within the fair area, or bathing or washing of infected clothes in stagnant pools or river water or within 50 yards of wells within the fair area which are used for purposes of water supply.

G.—Scavenging of the mela area and its general cleanliness.

1. The officers of the Public Health department may at all reasonable times do all things necessary for the proper performance of the scavenging of the mela area.

2. The officer in sanitary and medical charge of the fair may require the owner or occupier of any building, hut, premises or land which, in his opinion, be in filthy or unwholesome state to put it in a proper and thereafter to keep the same in clean and proper state.

3. No person shall be allowed to erect private latrines within the mela area except with the permission of the officer in charge of sanitary and medical arrangements of the fair and on such condition as may be imposed by him.

4. No persons except those who have obtained permits from the officer in charge of the fair shall be allowed to shave or cut their hair outside the enclosures set apart for the purpose.

H.—Dispersal or stoppage of the fair.

When cholera, small-pox, plague, influenza, relapsing fever or malaria has broken out in the fair in an epidemic form, the District Magistrate may order the stoppage of the fair and may disperse the gathering.

MEDICAL INSPECTION OF PILGRIMS AT RAILWAY STATIONS.

GOVERNMENT NOTIFICATION.

November 8, 1929.

MISCELLANEOUS.

No. 831/XVI—298.—Whereas the Governor of the United Provinces of Agra and Oudh, acting with his Ministers, is satisfied that the United Provinces is threatened with the spread of cholera in the province owing to the great influx of pilgrims from all over India to attend the bathing festivals at Allahabad in connexion with the twelve-yearly Kumbh mela which will fall in the month of January-February, 1930, and thereafter due to the dispersal of pilgrims from the mela, and that ordinary provisions of the law for the time being in force are insufficient to prevent the spread of the disease, he has been pleased to make the following temporary regulations under section 2A of the Epidemic Diseases Act (III of 1897), as amended by Act no. XXXVIII of 1920, for the medical inspection of railway passengers and of segregation of those suffering from cholera or suspected to be suffering from cholera, and it is hereby ordered that the various regulations shall remain in force for the periods indicated therein.

The Regulations.

(1) Travelling dispensaries and medical officers shall be posted at Saharanpur and Gtaziabad stations on the North-Western Railway. Muttra, Jhansi

and Manikpur stations on the Great Indian Peninsula Railway, Moghal Sarai station on the East Indian Railway, and Bhatni, Gorakhpur and Ballia stations on the Bengal and North-Western Railway between December 15, 1929 and April 15, 1930.

(2) Medical officers will be posted also at Cawnpore, Ajudhya, Fyzabad, Partabgarh, Shahganj, Jaunpur, Janghai, Kashi and Bindhachal stations on the East Indian Railway, Karwi station on the Great Indian Peninsula Railway, Benares City, Mau Junction, Aunrihar and Chilh stations on the Bengal and North-Western Railway, and the Benares Cantonment Junction station on both the East Indian and the Bengal and North-Western Railways between January 1, 1930 and February 28, 1930.

(3) Medical officers will also be posted at Allahabad Junction, Prayag, Prayag Ghat, Tribeni Ghat, Naini Junction and Phaphamau stations on the East Indian Railway, and Allahabad City, Izat Bridge and Jhusi stations on the Bengal and North-Western Railway in Allahabad between January 1 and February 28, 1930.

(4) (a) For the period travelling dispensaries or medical officers are posted at the railway stations mentioned in regulations nos. 1 and 2 the medical officer shall pass through the trains looking for obvious signs of cholera and shall isolate cases found in huts erected near the stations concerned or have them sent to an infectious diseases hospital if there is one:

(b) The medical officers posted at the stations mentioned in regulation no. 3 shall examine all determining passengers. They will detain all persons whom they find to be suffering or suspect to be suffering from an infectious disease and shall have them removed to the segregation huts erected at those stations or to the infectious diseases hospitals.

(5) The medical officer shall inform the station master if he has found any case of infectious disease and indicate the carriage in which the case was found, in order that the latter may carry out the provision of the Railway Act and side-track the carriage or carriages for the purpose of disinfection.

(6) For the medical inspection of out-going pilgrims medical officers will be posted at the stations in Allahabad mentioned in regulation no. 3 between January 10, 1930 and February 28, 1930, and they will examine the passengers at the entrance to the pens which will be constructed especially for the purpose. The medical officers will detain all persons whom they find to be suffering from or suspect to be suffering from an infectious disease and shall have them removed to the isolation huts erected at the station or to the infectious diseases hospital at Allahabad.

(7) Between January 10, 1930 and February 28, 1930 travelling medical inspectors will be attached to all pilgrim special and slow passenger trains going from and to the stations on the railways mentioned below. The inspectors will examine all passengers detraining at any station *en route*, and shall detain any person whom they find to be suffering from or suspect to be suffering from cholera and shall take such person or persons to the next station where there is a segregation hospital, if there is none at the station where the case is detected, and shall inform the station master of the station where the carriage can be side-tracked for disinfection by the railway authorities concerned :—

Railways.	Trains starting from—	Trains going to—
East Indian	Allahabad ..	{ Moghal Sarai viâ Naini. | Moghal Sarai viâ Janghai. | Cawnpore. | Fyzabad. | Unchahar (Rae Bareilly).
Great Indian Peninsula ..	Allahabad ..	Manikpur.
Bengal and North-Western ..	{ Allahabad .. | Benares ..	{ Bhatni (through). | Ballia (through). | Benares City. | Bhatni. | Ballia.

(8) The Assistant Directors of Public Health shall supervise and control these inspections and make adequate provision for the isolation of patients by the erection of huts, etc.

December 23, 1929.

No. 979/XVI (P. H.)—295-1928.—In continuation of notification no. 831/XVI—298, dated November 8, 1929, it is hereby notified that the Governor, acting with his Ministers, has been pleased to make the following additional temporary regulations under section 2A of the Epidemic Diseases Act, 1897 (III of 1897), as amended by Act no. XXXVIII of 1920, for the medical inspection of railway passengers to check the spread of cholera and for the segregation of those suffering from or suspected to be suffering from cholera, and it is hereby ordered that the regulations shall remain in force during the months of January and February 1930 :—

The Regulations.

1. Medical inspectors shall be posted at Banda, Chitrakot and Bharat-kup railway stations on the Great Indian Peninsula Railway, between January 1 and February 28, 1930.

2. For the period during which he is posted at a station mentioned in regulation no. 1 the medical inspector shall pass through all the trains looking for obvious signs of cholera and shall isolate cases found in huts erected by the Great Indian Peninsula Railway authorities near the railway station. He shall inform the station master if he has found any case of infectious disease and shall indicate the carriage in which the case was found, in order that the latter may carry out the provisions of the Railway Act and side-track the carriage or carriages for the purpose of disinfection.

PUBLIC HEALTH DEPARTMENT.

MISCELLANEOUS.

December 17, 1929.

No. 969/XVI(P. H.)—298.—Whereas the Governor, acting with his Ministers, is satisfied that the United Provinces are threatened with the spread of cholera owing to the prevalence of the disease in the Gonda district and the large number of pilgrims from that district who are likely to attend the bathing festivals at Allahabad in connexion with the twelve-yearly Kumbh mela in the months of January and February, 1930, and that the ordinary provisions of the law for the time being in force are insufficient to prevent the spread of the disease, he has been pleased to make the following temporary regulations (in continuation of the regulations published with notification no. 831/XVI—208, dated November 8, 1929) under section 2A of the Epidemic Diseases Act, 1897 (III of 1897), as amended by Act no. XXXVIII of 1920, for the medical inspection of railway passengers and of segregation of those suffering from cholera or suspected to be suffering from cholera, and it is hereby ordered that the regulations shall remain in force during the period December 30, 1929 to February 28, 1930 :—

The Regulations.

1. A medical inspection post at the Ajodhyaghat (Lakarmandighat) railway station on the Bengal and North-Western Railway will be created under the control of an Assistant Medical Officer of Health of Gonda district. He will be assisted by a mobilized travelling dispensary and a sanitary inspector in the medical inspection of passengers. The Assistant Medical Officer of Health, the medical officer in charge of travelling dispensary or/ and the sanitary inspector shall pass through all the out-going trains looking for obvious signs of cholera and shall isolate cases found in huts erected near the railway station.

2. A public health travelling dispensary will be posted at each of the Gonda and Mankapur railway stations on the Bengal and North-Western Railway and the medical officer in charge of the dispensary shall pass through all the out-going trains looking for obvious signs of cholera and shall isolate cases found in the huts erected near the railway station.

3. The medical officer shall inform the station master if he has found any case of cholera and indicate the carriage in which the case was found so that the latter may carry out the provisions of the Railway Act and side-track the carriage or carriages for the purpose of disinfection.

4. The District Medical Officer of Health, Gonda, shall supervise and control these inspections and make provision for the isolation of patients by the erection of huts, etc.

APPENDIX VIII.

Statement showing the distribution of Public Health and Medical Staff in eight circles, Kumbh Mela, Allahabad, 1930.

Designation of staff.	Public Health head-quarter.				Circle no. I (above Kund).				Circle no. II (Ganga patti West).				Circle no. III (Ganga patti East).				Circle no. IV (Jamna patti West).				Circle no. V (Jumna patti East).				Circle no. VI (Jhusi).				Circle no. VII (Arai).				Circle no. VIII (Alopi Bagh).				Total.
	Public Health Gen-trial camp office.	Public Health Gen-trial Medical store.	Public Health Gen-trial Sanitary store.	Water Analysis staff.	Conservancy.	General disinfection.	Branch hospital (general diseases).	Main infectious diseases hospital.	Conservancy.	General disinfection.	Branch hospital (general diseases).	Branch hospital (general diseases).	General disinfection.	Conservancy.	General disinfection.	Branch hospital (general diseases).	Branch hospital (general diseases).	General disinfection.	Conservancy.	General disinfection.	Branch hospital (general diseases).	Branch hospital (general diseases).	General disinfection.	Conservancy.	General disinfection.	Branch hospital (general diseases).	Branch hospital (general diseases).	General disinfection.	Conservancy.	General disinfection.	Branch hospital (general diseases).	Branch hospital (general diseases).					
Medical Officer of Health (in charge).	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Medical Officers-in-charge				
Medical Officers, Subordinate..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Medical Officers, women				
Midwives				
Compounders				
Chief Sanitary Inspector				
Sanitary Inspectors	3	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Clerks ..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Vaccinators	1	..	5	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jamadars ..	2	1	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Office peons ..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cooks	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kahars	1	16	..	..	1	..	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coolies	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Doli-bearers	2	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mate of sweepers	4	..	28	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mate of doms	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sweepers	27	1	327	..	..	14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Doms	7	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bhistis	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

*Total Public Health and Medical Staff on duty in connection with
the Kumbh Fair, Allahabad, 1930.*

Gazetted Officers of the Public Health Department				Number.
1.	Assistant Director of Public Health, III Range, United Provinces. In charge of the Public Health and medical arrangements of the fair	...	...	...
2.	Assistant Director of Public Health, I Range, United Provinces, in supervising charge of the Public Health and medical arrangements at the railway stations in Allahabad	...	...	...
3.	Medical Officers of the Provincial Public Health service in charge of sanitary circles	...	...	8
4.	Medical Officers of the Provincial Public Health service (on post-graduate training) attached to sanitary circles	...	...	5
5.	Medical Officers of the Provincial Public Health service attached to central public health camp office	...	...	1
6.	Medical Officers of the Provincial Public Health service on duty at municipal lodging houses	...	...	1
7.	Medical Officers of the Provincial Public Health service on inspection duty at road posts	...	...	1
8.	Medical Officers of the Provincial Public Health service on inspection duty at railway stations	...	...	3
Subordinate and Temporary Staff.				
9.	Medical Officers (M.B., B.S.) in charge of—			
	(a) General Diseases Hospital	...	2	}
	(b) Infectious Diseases Hospital	...	1	
	(c) Municipal Lodging houses (Daraganj)	...	1	
10.	Other Medical Officers on Hospital duty—			
	(a) General Diseases Hospital	...	12	}
	(b) Infectious Diseases Hospital	...	4	
11.	Medical Women on Hospital duty—			
	(a) General Diseases Hospital	...	1	}
	(b) Infectious Diseases Hospital	...	1	
12.	Medical Officers on Pilgrim inspection duty—			
	Medical Inspectors —			
	(i) At border railway stations	...	23	
		(including 9 T. D's.)		
	(ii) At <i>en route</i> railway stations	...	35	
		(including 1 T. D.)		
	(iii) At Allahabad railway stations	...	46	
	(iv) At road posts	...	10	
	Travelling Medical Inspectors —			
	For slow passenger trains	...	23	
	For Specials (L. P. H. & D. P. H. students)	...	32	
	Reserve	...	5	
13.	Travelling Dispensaries	...	6	
14.	Compounders	...	18	
15.	Dais	...	2	
16.	Chief Sanitary Inspector	...	1	
17.	Sanitary Inspectors	...	30	
18.	Vaccinators—			
	(a) In the Mela area	...	38	}
	(b) At the railway stations	...	78	
	(c) On road posts	...	22	
	(d) Lodging houses	...	2	
19.	Jamadars	...	36	
20.	Peons	...	157	
21.	Sweeper mates	...	152	
22.	Sweepers	...	1,756	
23.	Mates of Doms	...	2	
24.	Doms	...	27	
25.	Bhistis	...	2	
26.	Kahars and doli-bearers	...	97	
27.	Cooks	...	15	
28.	Beldars	...	80	

Extra staff on duty.		Number.
1. Assistant Director of Public Health (Provincial Hygiene Institute) ...	...	...
2. Assistant Director of Public Health (Hygiene Publicity Bureau) ...	...	...
3. Assistant Hygiene Publicity Officer, Senior	...	1
4. Assistant Hygiene Publicity Officer, Junior	...	1
5. Bacteriologist	...	1

APPENDIX IX.

Duties of the Medical Officer of Health in charge of circle.

1. He shall control and supervise the work of all sanitary and medical staff in his circle and shall see that all subordinates are duly instructed in their duties and discharge them regularly and diligently. He is responsible for the efficient working of all the arrangements made to safeguard the health of pilgrims in the area under his charge.
2. He shall see that the various regulations issued by Government under the Epidemic Diseases Act are strictly enforced and carried out.
3. He shall see that necessary action is taken to prevent commission of nuisances under section 34 of the Police Act.
4. He shall keep in close touch with the Assistant Director of Public Health in charge of the fair and bring to his notice without delay all matters of importance and those which require his orders.
5. He shall take prompt action on the report of occurrence of an infectious disease and arrange for the prompt removal of the patient to the infectious diseases hospital and the disinfection of the houses, huts, clothing, etc., and the segregation of "contracts".
6. He shall record a brief history of all the patients of infectious diseases tracing the source of infection and take proper preventive measures.
7. He shall induce the people in his circle to get themselves inoculated against cholera.
8. He shall visit every part of his circle twice a day and inspect frequently the latrines, trenching grounds, urinals, dust bins, barbers' enclosure (if any), etc., in his circle. He shall see that the roads, lanes, pilgrim enclosures and other grounds in his circle are swept and kept scrupulously clean.
9. He shall pay particular attention to the water-supply arrangements, especially to any wells in his circle.
10. He shall see that the staff employed on watering the roads carries out the work efficiently.
11. He shall see that the rules about inspection of food are carried out.
12. He shall supervise the working of the hospitals for general diseases and infectious diseases situated in his circle and inspect them daily.

APPENDIX X.

Duties of sanitary inspector.

1. He shall obtain from the Medical Officer of Health of his circle a copy of the general orders and ascertain from him exact boundaries of his area of work and his duties therein. He shall carry out all orders given him by the Medical Officer of Health of his circle.
2. He shall visit the area and get familiar with it, making a note of all points of public health interest.
3. He shall hold a muster roll and mark the daily attendance of vaccinators and jamadars and other staff working under his control. He shall warn them to report at once the occurrence of a case of infectious disease specially cholera, plague or small-pox.
4. He shall inspect daily all pilgrim enclosures, huts and houses, etc., within his area and shall be responsible that all roads, lanes and vacant lands are thoroughly swept daily.
5. He shall visit twice a day, or oftener if necessary all latrines, urinals, soakage and rubbish pits and trenches and see that no night-soil is left exposed and that the latrines are kept in a sanitary condition.
6. He shall see that no nuisance is committed on spare or vacant grounds within his jurisdiction.
7. He shall see that the carcasses of any dead animals are promptly removed and buried or otherwise disposed of.
8. On the occurrence of a case of infectious disease, he shall—
 - (a) report the case at once to the Medical Officer of Health of the circle,
 - (b) arrange for the removal of the patient to the Infectious Diseases Hospital;
 - (c) adopt prompt measures to control the spread of infection;
 - (d) disinfect all articles which may have caused or may carry infection;
 - (e) keep a constant watch on any infected area; and
 - (f) warn the public of the occurrence of a case of infectious disease and acquaint them with the precautionary measures that should be adopted.
9. He shall supervise the sweeping and watering of the roads and other places and see that all collections of rubbish are promptly removed.
10. (a) He shall visit all the shops where articles of food and drink are sold and see that the regulations on the subject are enforced.
 (b) He shall draw the attention of the Medical Officer of Health to the shall carry out, when required, the disinfection of water-supply.
11. (a) He shall visit daily all the water stand-posts to see that they are functioning properly and there is no wastage; he shall examine the wells, if any, within his jurisdiction and see that there is no contamination. He shall carry out, when required, the disinfection of water supply.
 (b) He shall see that stagnant water is not allowed to accumulate near wells, stand-posts, shops and other public places.
12. He shall see that no unauthorized source of water supply is used.
13. He shall maintain a sufficient stock of disinfectants and replenish his supplies, when necessary, by indent on the circle store.
14. He shall keep an account of all store and articles supplied and used such as phenyle, lime, planks, etc.
15. He shall report daily to the Medical Officer of Health all matters of importance and bring to his notice any matter on which he requires orders.
16. He shall see that all jamadars, mates and sweepers, etc., working under him thoroughly understand the duties required of them and carry them out in an efficient manner. He shall see that the subordinate staff wears the badges issued to them.

APPENDIX XI.

Duties of the Medical Officer attached to a Hospital.

1. He shall act under the orders of the Medical Officer of Health of his circle and will correspond through him.

2. (a) He shall examine all patients attending the dispensary and prescribe necessary medicine or treatment.

N.B.—Patients suffering from general diseases will not be treated in the Infectious Diseases Hospital.

(b) He shall supervise the preparation and issue of medicines; extra diets and food to the in-patients; and see that they are properly clothed and nursed.

3. He shall be responsible for the safe custody of the medicines, surgical instruments, hospital equipment and Government store of all kinds in his charge. The bottles containing poisons shall bear distinctive labels and be kept in a separate locked almirah of which the medical officer in charge shall keep the key.

4. He shall see that the compounder and other hospital staff and attendants perform their duties regularly and efficiently.

5. He shall maintain the prescribed registers, bed head tickets, temperature charts, etc., and submit such indents, reports and returns as may be ordered by the Medical Officer of Health in charge of the circle or the Assistant Director of Public Health.

6. He shall reside in the quarters provided for him and conform to the hours of attendance which may be prescribed.

7. He shall try to get all members of the staff employed in the hospital under him inoculated against cholera.

8. He shall, without delay, report to the Medical Officer of Health in charge of the circle when any case of cholera, suspected cholera or any other contagious disease is reported to him or received in the hospital. He shall also report without delay every death that occurs in the hospital.

9. Immediately on the receipt of a report of occurrence of a case of infectious disease, he shall despatch a *doli* with *kahars* to carry the patient to an Infectious Diseases Hospital.

NOTE.—When transferring a case of cholera to a hospital the disinfectants like phenyle, lime, etc., should be sent in the custody of a trained man for disinfecting infected ground if the patient vomits or purges and soils the ground on the way to the hospital.

A durrie or soft bedding should always be spread on the *doli* and a pillow placed under the head of the patient.

Fly-papers should also be used on the *doli*.

NOTE 2.—He shall see that *kahars* who bring infectious cases to hospitals wash their hands and feet with some proper disinfecting lotion.

10. (a) The medical officer shall see that all evacuations of a cholera patient are received in *gumlaks* which are filled with cyllin or hycol lotion (1—100). These evacuations will be emptied into a kerosine oil tin with an iron handle and will be immediately placed over fire and thoroughly boiled before being disposed of in a separate trench. *Gumlaks* should also be disinfected or destroyed and trenched.

(b) The medical officer shall be responsible for the supply and adequate use of disinfectants in the latrines attached to the hospital.

(c) Infected clothes should be boiled. Water must be kept boiling at all times of the day and night. Bedding of the patients should be disinfected in the disinfector provided in the Infectious Diseases Hospital.

(d) Tangle-foot fly-papers shall be put in different places in the wards, kitchen, latrines, and residential quarters, etc. There should be no flies in the infectious diseases wards.

(e) Used *dhotis*, clothes, etc., must be thoroughly disinfected or burnt.

(f) Permanganated water shall in all cases be given to the patients.

(g) Unslaked lime should be spread in the wards having kutcha floors.

(h) A stock of disinfected rags should be kept ready for use and used by placing them in position by means of tongs in case the patients are too ill to pass motions in bed pan supplied to each hospital. These rags must in all cases be boiled and again disinfected in the disinfector.

(i) The relations and friends of the infectious case brought to the hospital who accompany the patients, should be persuaded to undergo anti-cholera inoculation

11. The medical officer shall make proper arrangements for boiling dejecta, vomit and clothes of infectious cases. He shall be personally responsible for this work. The patients must not be left unattended at any time. Particular attention shall be given to immediate boiling of clothes and dejecta.

12. (a) The female sub-assistant surgeon attached to the main hospitals shall comply with the above orders, as far as they are applicable to her.

(b) She shall visit the female *baras* and note the general sanitation and the cases of illness among the females.

APPENDIX XII.

Method of disposal of night-soil.

The system known as the "trenching system of night-soil disposal" is carried out.

1. The size of each trench is ordinarily (depending on the nature of the soil and the extent of the area available) 4 feet deep, 1 foot wide, and 18 to 24 yards long (usually 72 feet).

2. Directly the night-soil is deposited in the trench (by either people using it or the night-soil brought in from private licensed privies) it is covered over immediately with pulverised earth (or sand).

This procedure is carried on till the trench is filled up to 12 inches from the surface. A layer of powdered earth (or sand) to a depth of 11 inches is then spread over it and the rest is filled in with lime.

3. The trench is then covered with a "tat" (a piece of gunny cloth) soaked in a mixture of crude oil and coaltar and the edges are tucked in by digging a narrow furrow-like depression 4" deep around the trench at a distance of 8 inches from either edge of the trench and parallel to it.

The "tats" thus extend to one foot on both sides of the trench as per diagram

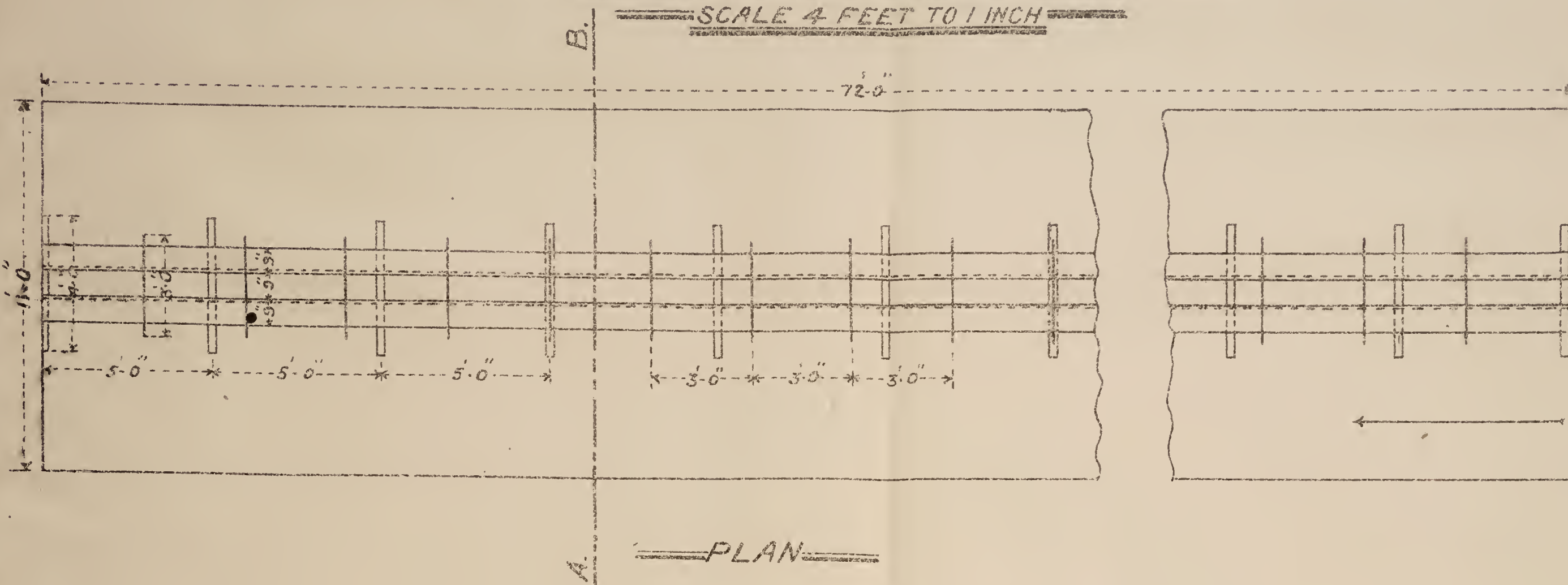
Finally the powdered earth or sand is heaped over the trench to form a semi-circular mound sloping both ways.

KUMBH FAIR ALLAHABAD

1930

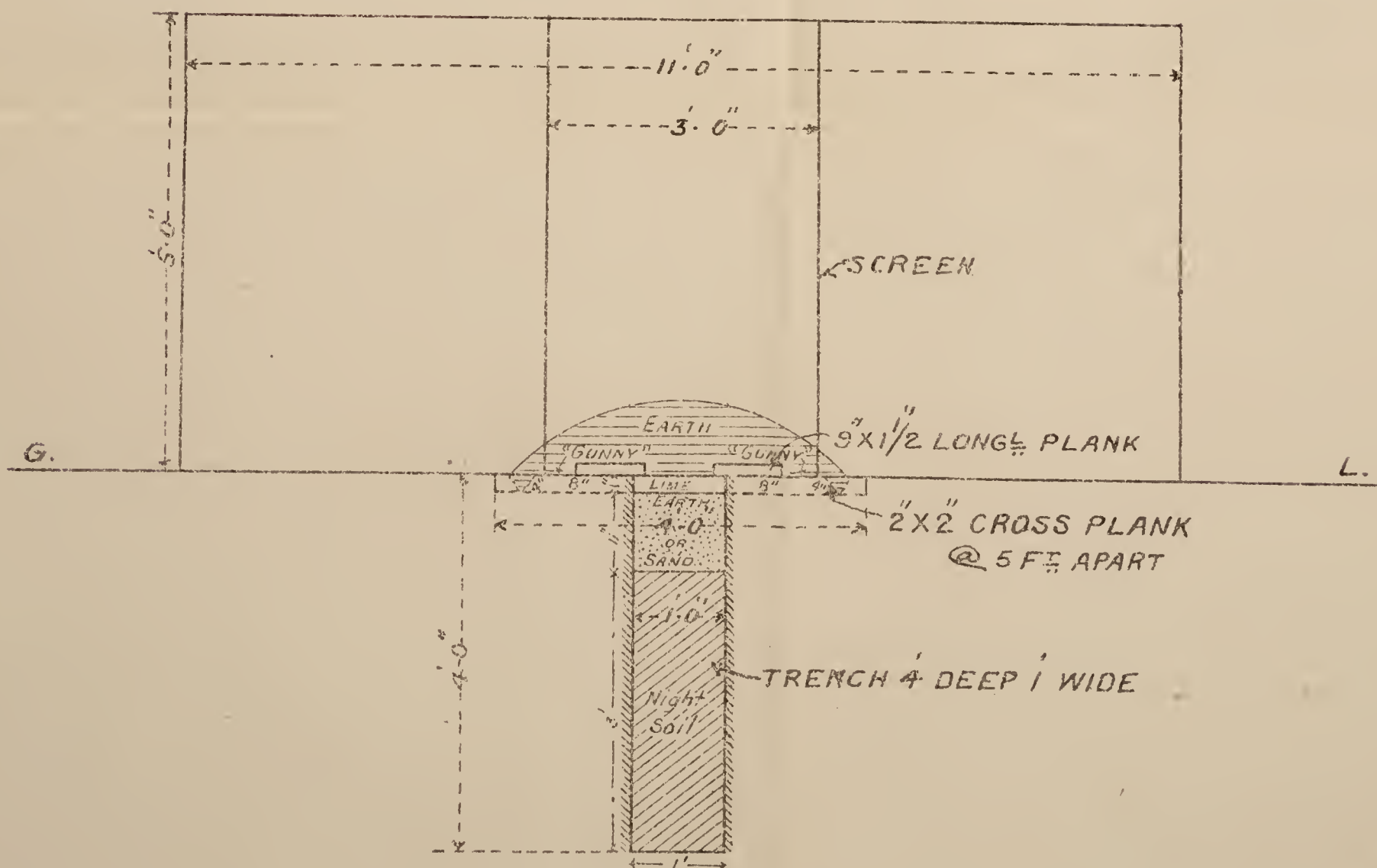
TYPE OF PUBLIC LATRINE

SCALE 4 FEET TO 1 INCH



SECTION ON A. B.

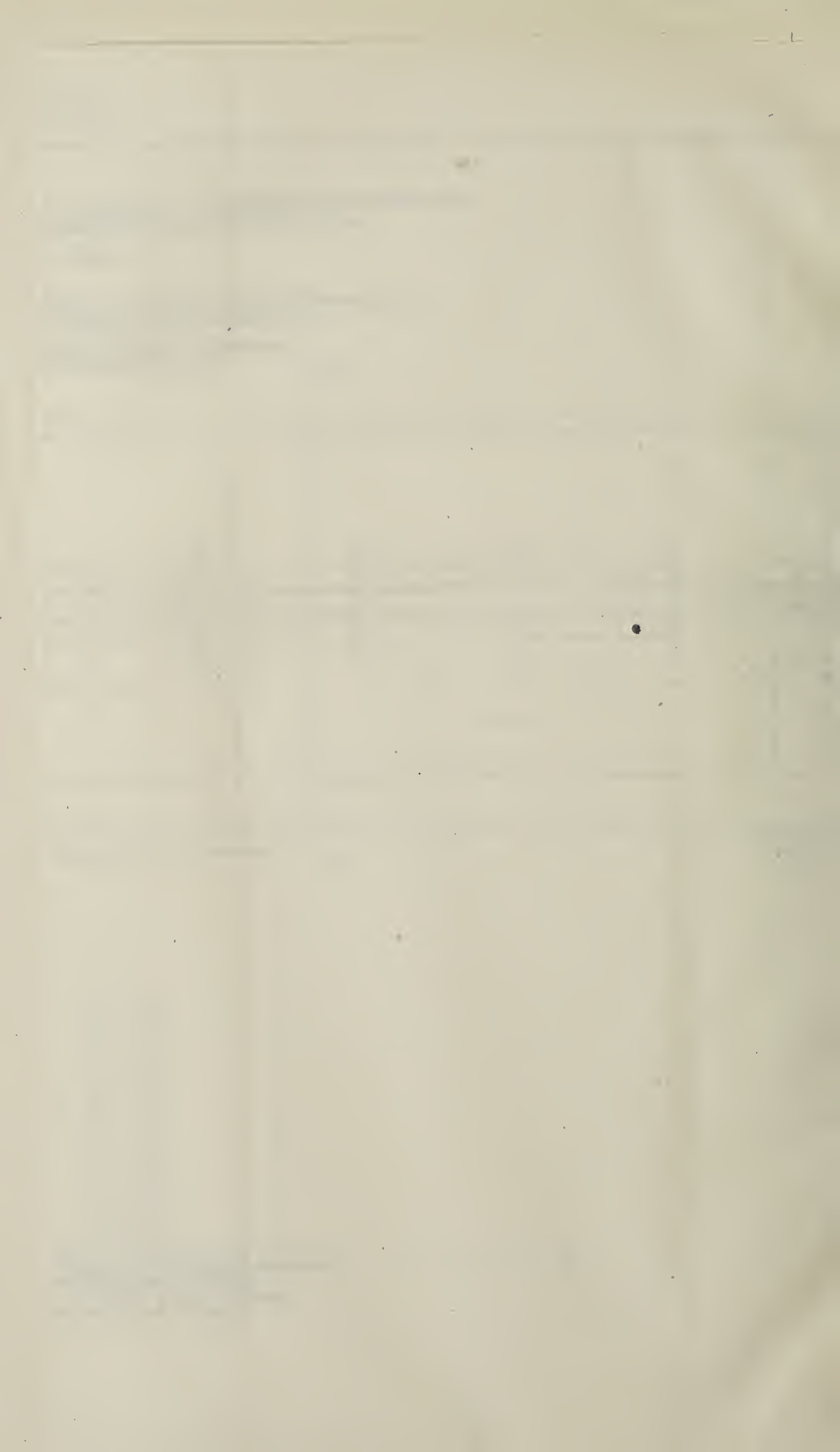
SCALE 2 FEET TO 1 INCH



Sd. K. P. MATHUR

ASSISTANT DIRECTOR OF PUBLIC HEALTH
III RANGE

27/12/29



KUMBH FAIR ALLAHABAD

1930

TYPE OF PUBLIC URINAL

SCALE $\frac{1}{2}$ INCH TO 1 FOOT

SECTION ON A, B

[Faint handwritten notes or scribbles]



(71A)

APPENDIX XIII.



A Halwai shop.

APPENDIX XIV.

Statement showing the number of hospitals in the Mela area and the staff engaged to man them.

	Assistant Surgeons.	Sub-Assistant Surgeons.	Female Sub-Assistant Surgeons.	Midwives.	Compounders.	Cooks.	Kahars.	Doli bearers.	Sweepers.	Doms.	Vaccinators.	Sanitary inspectors.	Remarks.
For general diseases.													
1. Main Hospital ..	2	2	1	1	4	2	8	6	11	2	Number of hos- pitals— For general dis- eases— Main .. 1 Reserve } .. 1 Police } .. 8 For infectious diseases— Main .. 1 Branch .. 2 Total .. 13
2. Reserve Police Hos- pital.	..	1	..	..	1	1	2	..	2	..	..	..
3. Branch Hospital in Circle no. I.	..	1	..	..	1	1	2	2	2	2	..	..
4. Branch Hospital in Circle no. II.	..	1	..	..	1	1	2	2	2	2	..	..
5. Branch Hospital in Circle no. III.	..	1	..	..	1	1	2	2	2	2	..	..
6. Branch Hospital in Circle no. IV.	..	1	..	..	1	1	2	2	2	2	..	..
7. Branch Hospital in Circle no. V.	..	1	..	..	1	1	2	2	2	2	..	..
8. Branch Hospital in Circle no. VI.	..	1	..	..	1	1	2	2	2	2	..	..
9. Branch Hospital in Circle no. VII.	..	1	..	..	1	1	2	2	2	2	..	..
10. Branch Hospital in Circle no. VIII.	..	1	..	..	1	1	2	2	2	2	..	..
For infectious diseases.													
11. Main Hospital ..	1	2	1	1	3	2	8	2	15	2	2	1	
12. Branch Hospital in Jhusi.	..	1	1	1	2	..	2	
13. Branch Hospital in Arail.	..	1	1	1	2	..	2	
Total ..	3	15	2	2	18	15	38	24	48	20	2	1	

APPENDIX XV.

List of disinfectants supplied for Kumbh Mela, Allahabad, 1930.

1. Phenyle ...	...	...	500 gallons.
2. Hycol ...	...	...	72 gallons.
3. Cyllin ...	...	...	10 lbs.
4. Perchloride of Mercury	...	...	10 lbs.
5. Acid Hydrochloric Pure	...	...	40 lbs.
6. Pot Permanganate ...	...	...	200 lbs.
7. Disinfecting Powder...	...	...	40 boxes (40 cwt.).
8. Hydrocarbon ...	...	...	220 gallons.
9. Coal tar ...	...	...	250 tins.
10. Bleaching Powder ...	...	...	15 cwts.
11. Lime ..	...	...	2,000 maunds,

APPENDIX XVI.

*List of private dispensaries which were opened in the Kumbh
Fair area, Allahabad, 1930.*

Circle I.

1. Private charitable dispensary worked by Baba Kali Kamli Wala, Rikhikesh.

Circle II.

2. Prem Seva Sabha, Amritsar.
3. Niranjani Akhara.
4. Shri Krishnand Dhrinvalas.
5. Pandit Ratnakar, Bankipur.

Circle III.

6. Guru Nanak Seva Samiti Dispensary.
7. Prayag Seva Samiti Dispensary.
8. Agarwal Seva Samiti Dispensary.
9. Kali Kamli Wala Hospital.
10. Dacca Aushadhalaya.

Circle IV.

11. Railway Seva Samiti Amritsar Dispensary.
12. Bhola Nath Electric Homeopath Dispensary.
13. Rai Bahadur Bisheshwar Lal Moti Lal Halwasiya Aushadhalayas.
14. Ram Krishna Mission Dispensary.

Circle V.

15. Bharat Seva Samiti Dispensary.
16. Bharat Seva Ashram Homeopathic Dispensary.
17. Seva Dal Bhajan Baldeo Aushadhalaya or Sanatan Dharam Dispensary I.
18. Dharmarth Aushadhalaya or Sanatan Dharam Dispensary II.
19. Dalatia Aushadhalaya or Sanatan Dharam Dispensary III.

Circle VI.

20. Charitable Dispensary Siri Satbela, Tirith Sukkur (Sind).
21. Kali Kamli Walla Dispensary (Allopathic and Homeopathic).
22. Nirakari Akhara (Ram Krishna Mission Dispensary).

APPENDIX XVII.

Statement showing the distribution of Police on sanitary duty.

Serial no.	Name of circle.	Sub-Inspector.	Head-constable.	Constable.	Chowkidars.
1	Circle I (Bund) .. ..	..	1	9	22
2	Circle II (Ganga Patti-West) ..	1	1	25	30
3	Circle III (Ganga Patti-East) ..	1	1	24	70
4	Circle IV (Jumna Patti-West) ..	1	1	25	40
5	Circle V (Jumna Patti-East)..	1	1	25	40
6	Circle VI (Jhusi) .. ..	..	1	8	25
7	Circle VII (Arail) .. ..	..	2	6	15
	Circle VIII (Alopi Bagh) .. ..	..	1	3	15
9	Reserve .. ..	..	..	10	20
	Total ..	4	9	135	277

Statement showing the distribution of Police staff attached to hospitals.

Name of hospital.	Number of beds.	Constables.	Chowkidars.
Main General Diseases Hospital (1) ..	100	3	4
Branch General Diseases Hospitals (7) ..	10 (each)	7	14
Main Infectious Diseases Hospital (1) ..	100	3	4
Branch Infectious Diseases Hospital (2) ..	10 (each)	2	4
Reserve .. ..	..	3	4
Total ..	..	18	30

APPENDIX XVIII.

Duties of Police on sanitary duty.

The strength and distribution of police deputed to assist the Public Health department in maintaining the proper sanitation of the mela area is given in Appendix XVII. Police deputed for this purpose will not be used for other duties without the previous sanction of the Superintendent of Police. The duties of the police on sanitary duty are as follows :—

- (1) To maintain a careful watch that all sanitary arrangements instituted by the Public Health department are carried out.
- (2) To forbid the performance of offices of nature in or near the fair at any place not set aside for such purposes. Persons found committing such offences will be proceeded against under section 34, Act V of 1861 in flagrant cases only. In other cases where a warning will suffice further action is unnecessary.

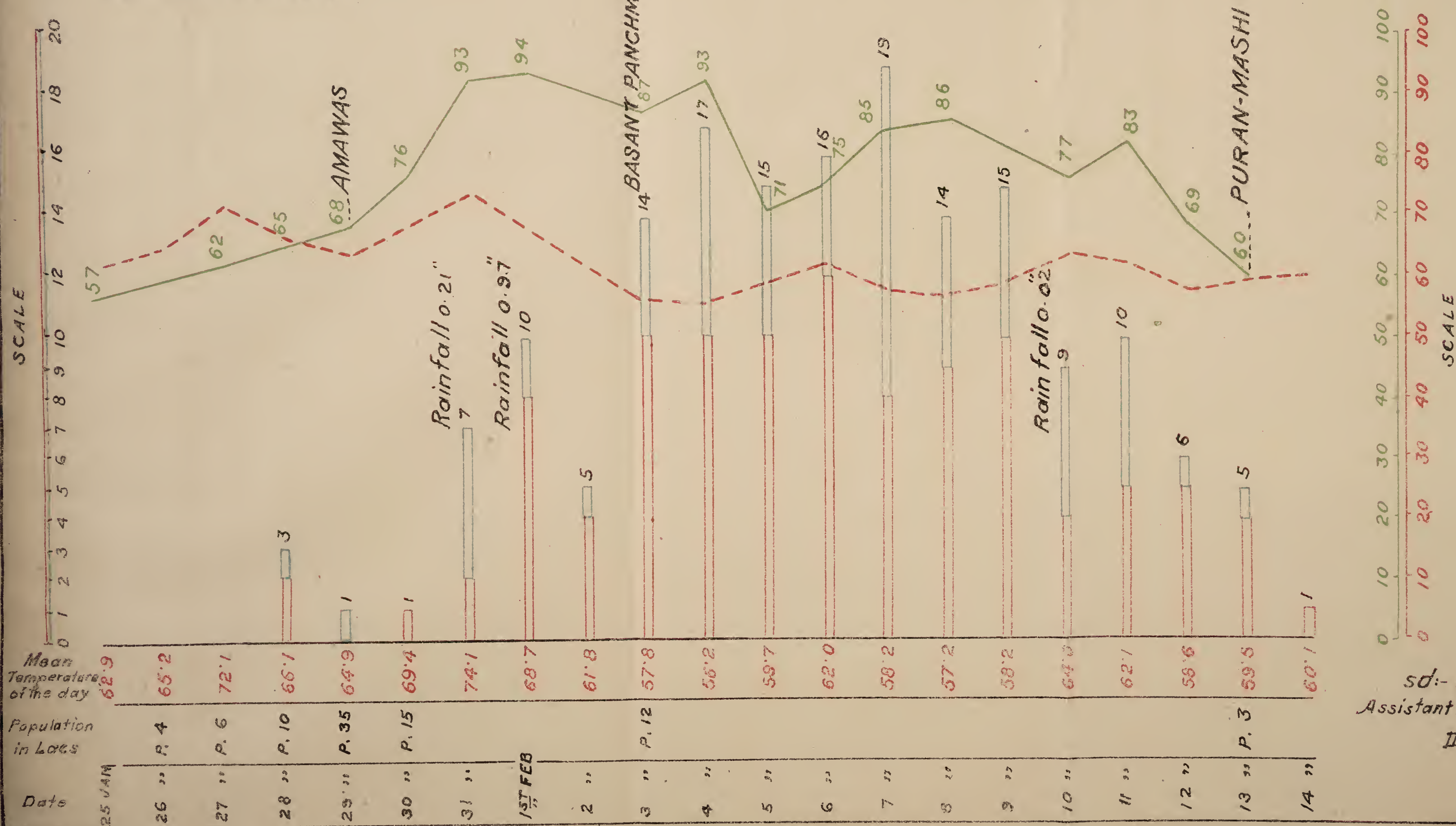
NOTE—This rule is framed to obviate the police deputed on sanitary duty wasting their time at Courts in connection with petty cases.

- (3) When called on by an officer of the Public Health department on discovery of an infectious case, to remain near the case until the arrival of the *doli* to remove the patient to the hospital, and of the disinfecting gang for the disinfection of the area. In such cases an immediate report must be made at the police station to which the police on sanitary duty are attached.
- (4) When an infectious case is discovered a chaukidar will be immediately sent to the nearest hospital for the *doli* and disinfecting gang, and the patient be watched until the *doli* has arrived. In such cases also an immediate report should be made to the police station.
- (5) All lepers found in streets or public places in the mela area will be taken in charge and removed from the area. Doubtful cases of leprosy will be at once taken to the nearest hospital and then if necessary removed from the mela area.
- (6) Diseased persons other than lepers will be immediately taken to the nearest hospital. A report must always be submitted to the police station of the discovery of the leper or other diseased person.
- (7) Corpses may only be cremated at the recognized burning ghats, and no corpse may be thrown into the river except at a place situated not less than one mile down the Sangam and after sufficient weight has been attached to prevent floating.
- (8) When an unclaimed body is found a constable or chaukidar must immediately report the matter to the nearest thana, where the officer in charge will send a note to the nearest Sub-Assistant Surgeon, or Medical Officer, and will himself proceed as laid down in Police Regulations.
- (9) Police on sanitary duty must prevent the waste of water at stand-pipes, and must not allow persons to bathe and wash clothes at such places.
- (10) When an area is fouled the police on sanitary duty in that area will call the sweeper gang appointed for that area to clean it, and will submit a report to the Assistant Superintendent of Police on sanitary duty to the effect that they have done so. They must not, however, take sweeper gangs from their appointed areas.
- (11) They should prevent people from drinking water from pools as an adequate water-supply exists in practically the whole mela area.

ALLAHABAD KUMBH MELA 1930

No OF SEIZURES FROM CHOLERA

Males -----
 Females -----
 Relative Humidity -----
 (Saturation 100)
 Mean Temperature -----



sd:- K. P. MATHUR
 Assistant Director of P. H.
 III Range

APPENDIX XX.

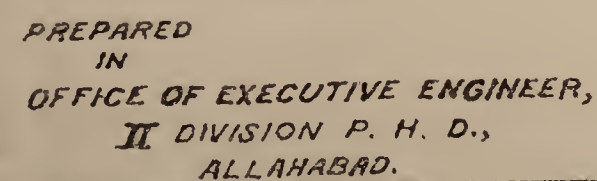
Statement showing the expenditure incurred by the Assistant Director of Public Health, III Range, United Provinces, out of the grants placed at his disposal to meet the charges on account of the entertainment of the staff temporarily employed in connection with the medical inspection of pilgrims attending Allahabad Kumbh Fair, 1930, and to meet the cost of construction, equipment and running expenses of the Segregation Hospitals constructed in the III Range.

Allotment.		Rs. 41,214 (vide D. P. H.'s letter no. 30931/V—1232/XVI-H, dated November 29, 1929).	*Rs. 1,350 (deduct Rs. 486-5) (vide D. P. H., Epidemiology Branch letter no. 8530-P., dated October 24, 1929).	* Rs. 1,500 (add Rs. 486-5) (vide D. P. H. Epidemiology Branch letter no. 9663-P/I.B-2, dated December 21, 1929).
Serial no.	Head of expenditure.	Amount of expenditure.	Amount of expenditure.	Amount of expenditure.
		Rs. a. p.	Rs. a. p.	Rs. a. p.
1	Pay of staff	30,190 2 3	..	..
2	Travelling allowance ..	2,617 5 0	..	..
3	Contingencies ..	2,697 6 0	863 11 0	1,832 9 0
	Total ..	35,504 13 3	863 11 0	1,832 9 0
	Balance ..	5,709 2 9	..	153 12 0

* (Vide Director of Public Health, Epidemiology Branch's letter no. 1652/P.M.-2, dated March 19, 1930.)

PLAN OF MAIN HOSPITAL

FOR GENERAL DISEASES



LATRINE
 WATER TAP
 MASONRY DISINFECTOR
 SERBIAN DISINFECTOR
 KARHAI DISINFECTOR
 MORTUARY
 CONSERVANCY APPLIANCES
 SWEEPERS HUTS
 FOR CONTACTS
 S
 D
 R
 A
 W
 40'-0"
 15'-0"
 12'-0"
 DISINFECTING FLUID
 OBSERVATION WARD FOR DIARRHIA CASES
 SMALL POX WARDS
 CONSTABLES
 MEDICAL OFFICER'S OFFICE AND OUT PATIENTS
 STORE
 DISPENSARY
 LADY DOCTOR
 COMPOUNDERS AND KARHARS
 MEDICAL OFFICER'S
 MEDICAL OFFICER'S
 WATERTAP
 Sd: - K. P. MATHUR
 ASSISTANT DIRECTOR OF PUBLIC HEALTH,
 III RANGE.

STATISTICAL STATEMENTS
(Vital Statistics)

Paragraphs 2, 4, 5, 6 and 7 of Chapter II.

ANNUAL

Births registered in the districts of the

1	2		3			4		
Number.	District.		Population according to census of 1921.			Number of births registered.		
			Male.	Female.	Total.	Male.	Female.	Total.
	MEERUT DIVISION.							
1	Dehra Dun	..	128,176	84,067	212,243	3,342	3,102	6,444
2	Saharanpur	..	515,908	421,563	937,471	24,022	21,571	45,593
3	Muzaffarnagar	..	434,307	359,958	794,265	18,735	16,011	34,746
4	Meerut	..	809,994	689,080	1,499,074	31,817	27,316	59,133
5	Bulandshahr	..	562,529	503,990	1,066,519	25,759	22,997	48,756
	AGRA DIVISION.							
6	Aligarh	..	575,379	486,366	1,061,745	23,633	21,450	45,083
7	Muttra	..	341,150	277,988	619,138	11,858	10,552	22,410
8	Agra	..	508,298	415,857	924,155	22,933	20,286	43,219
9	Mainpuri	..	411,981	336,046	748,027	13,447	11,076	24,523
10	Etah	..	449,162	380,598	829,760	17,052	14,885	31,937
	ROHILKHAND DIVISION.							
11	Bareilly	..	544,885	468,990	1,013,875	24,621	22,016	46,637
12	Bijnor	..	389,643	350,539	740,182	18,884	16,770	35,654
13	Budaun	..	527,823	447,524	975,347	23,254	21,231	44,485
14	Meradabad	..	639,022	559,631	1,198,653	31,813	29,126	60,939
15	Shahjahanpur	..	452,837	386,278	839,115	21,745	19,936	41,681
16	Pilibhit	..	229,130	202,471	431,601	10,289	9,254	19,543
	ALLAHABAD DIVISION.							
17	Farrukhabad	..	469,009	387,624	856,633	20,346	17,987	38,333
18	Etawah	..	404,323	329,209	733,532	14,742	13,206	27,948
19	Cawnpore	..	637,319	511,345	1,148,664	19,791	17,184	36,975
20	Fatehpur	..	341,527	310,865	652,392	11,402	9,891	21,293
21	Allahabad	..	722,188	682,257	1,404,445	22,330	20,137	42,467
	JHANSI DIVISION.							
22	Jhansi	..	315,590	290,909	606,499	13,287	12,108	25,395
23	Jalaun	..	213,384	192,055	405,439	8,206	7,336	15,542
24	Hamirpur	..	237,103	228,220	465,323	9,075	8,047	17,122
25	Banda	..	300,930	287,106	588,036	9,673	7,994	17,667
	BENARES DIVISION.							
26	Benares	..	487,165	464,866	952,031	19,874	18,014	37,888
27	Mirzapur	..	361,635	362,548	724,183	14,395	13,208	27,603
28	Jaunpur	..	574,480	580,625	1,155,105	17,557	15,575	33,132
29	Ghazipur	..	399,163	382,407	781,570	14,473	13,087	27,560
30	Ballia	..	426,520	404,489	831,009	14,196	11,996	26,192
	GORAKHPUR DIVISION.							
31	Gorakhpur	..	1,658,592	1,608,238	3,266,830	60,781	55,948	116,729
32	Basti	..	984,741	940,487	1,925,228	32,799	28,968	61,767
33	Azamgarh	..	775,866	752,146	1,528,012	28,121	25,115	53,236
	KUMAUN DIVISION.							
34	Naini Tal	..	160,798	116,077	276,875	4,425	4,100	8,525
35	Almora	..	265,253	265,085	530,338	12,234	12,004	24,238
36	Garhwal	..	232,863	252,323	485,186	10,807	10,772	21,579
	LUCKNOW DIVISION.							
37	Lucknow	..	392,559	331,785	724,344	13,701	12,668	26,369
38	Unao	..	433,613	385,515	819,128	12,844	11,399	24,243
39	Rae Bareli	..	474,742	461,661	936,403	13,167	11,283	24,450
40	Sitapur	..	581,655	507,826	1,089,481	22,044	19,350	41,394
41	Hardoi	..	586,166	498,244	1,084,410	22,291	19,767	42,058
42	Kheri	..	485,177	428,298	913,475	18,293	15,949	34,242
	FYZABAD DIVISION.							
43	Fyzabad	..	588,888	583,687	1,172,575	19,418	17,350	36,768
44	Gonda	..	752,896	720,202	1,473,098	22,638	19,441	42,079
45	Bahraich	..	554,548	510,829	1,065,377	21,973	19,150	41,123
46	Sultanpur	..	494,593	509,319	1,003,912	15,700	13,088	28,788
47	Partabgarh	..	417,339	437,791	855,130	12,754	11,017	23,771
48	Bara Banki	..	536,896	493,058	1,029,954	18,967	16,947	35,914
	Total for the Province..		23,787,745	21,588,042	45,375,787	895,508	797,665	1,693,173

FORM No. I.

United Provinces during the year 1930.

5			6	7	8	9			10
Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.			Number.
Male.	Female.	Total.				Male.	Female.	Total.	
15.75	14.61	30.36	107.74	6.94	..	14.53	12.84	27.37	1
25.62	23.01	48.63	111.36	15.67	..	23.21	20.57	43.78	2
23.59	20.16	43.75	117.01	20.05	..	21.03	18.20	39.23	3
21.22	18.22	39.44	116.48	16.58	..	21.14	18.43	39.57	4
24.15	21.56	45.71	112.01	16.32	..	22.22	19.67	41.89	5
22.26	20.20	42.46	110.18	15.82	..	22.26	20.64	42.90	6
19.15	17.04	36.19	112.38	8.06	..	17.85	15.50	33.35	7
24.81	21.95	46.76	113.05	18.19	..	22.49	20.44	42.93	8
17.98	14.80	32.78	121.41	11.55	..	16.05	13.40	29.45	9
20.55	17.94	38.49	114.56	16.75	..	17.44	15.35	32.79	10
24.28	21.71	45.99	111.83	..	.37	23.08	20.99	44.07	11
25.51	22.66	48.17	112.60	12.78	..	25.00	22.48	47.48	12
23.84	21.77	45.61	109.53	14.51	..	20.97	19.11	40.08	13
26.54	24.30	50.84	109.22	15.64	..	24.81	22.59	47.40	14
25.91	23.76	49.67	109.07	13.24	..	22.61	20.57	43.18	15
23.84	21.44	45.28	111.18	2.17	..	22.70	20.59	43.29	16
23.75	21.00	44.75	113.11	14.89	..	20.15	18.05	38.20	17
20.10	18.00	38.10	111.63	12.23	..	18.51	16.32	34.83	18
17.23	14.96	32.19	115.17	6.68	..	15.95	13.70	29.65	19
17.48	15.16	32.64	115.28	6.47	..	17.10	15.11	32.21	20
15.90	14.34	30.24	110.90	6.73	..	17.11	15.18	32.29	21
21.91	19.96	41.87	109.74	..	5.34	23.53	21.37	44.90	22
20.24	18.09	38.33	111.86	4.91	..	19.10	17.09	36.19	23
19.50	17.29	36.79	112.77	..	8.54	22.03	19.78	41.81	24
16.45	13.59	30.04	121.00	..	3.80	17.54	15.02	32.56	25
20.87	18.92	39.79	110.32	10.77	..	20.19	18.72	38.91	26
19.88	18.24	38.12	108.98	12.12	..	20.00	18.55	38.55	27
15.20	13.48	28.68	112.72	9.45	..	15.49	13.32	28.81	28
18.52	16.74	35.26	110.59	11.14	..	16.70	14.93	31.63	29
17.08	14.43	31.51	118.34	13.62	..	16.39	14.08	30.47	30
18.60	17.13	35.73	108.64	10.95	..	16.83	15.48	32.31	31
17.04	15.04	32.08	113.22	9.87	..	16.57	14.78	31.35	32
18.40	16.44	34.84	111.97	11.81	..	16.56	15.13	31.69	33
15.98	14.81	30.79	107.93	..	4.16	15.91	14.41	30.32	34
23.07	22.63	45.70	101.92	20.61	..	21.55	20.74	42.29	35
22.27	22.20	44.47	100.32	17.44	..	21.33	20.86	42.19	36
18.91	17.49	36.40	108.15	..	2.56	20.67	19.17	39.84	37
15.68	13.91	29.59	112.68	6.39	..	16.13	13.88	30.01	38
14.06	12.05	26.11	116.70	4.01	..	13.61	11.55	25.16	39
20.23	17.76	37.99	113.92	11.33	..	18.73	16.69	35.42	40
20.55	18.23	38.78	112.77	12.06	..	17.86	15.99	33.85	41
20.02	17.46	37.48	114.70	8.89	..	18.44	16.12	34.56	42
16.56	14.80	31.36	111.92	9.96	..	16.00	14.63	30.63	43
15.37	13.19	28.56	116.44	8.07	..	14.06	11.92	25.98	44
20.62	17.97	38.59	114.74	11.20	..	17.12	14.90	32.02	45
15.64	13.03	28.67	119.96	4.01	..	16.57	14.34	30.91	46
14.91	12.88	27.79	115.77	5.68	..	15.87	13.52	29.39	47
18.41	16.45	34.86	111.92	7.59	..	16.59	14.57	31.16	48
19.73	17.58	37.31	112.27	10.11	..	18.64	16.60	35.24	

Paragraphs 2, 7, 12 and 13 of Chapter II.]

ANNUAL

Births and deaths registered in the districts

1	2	3	4	5			6		7		
Number.	District.	Area in square miles.	Average population per square mile.	Population (according to census of 1921).			Births.		Number of deaths registered.		
				Male.	Female.	Total.	Total number.	Birth-rate per 1,000 of population.	Male.	Female.	Total.
MEERUT DIVISION.											
1	Dehra Dun ..	1,190	178	128,176	84,067	212,243	6,444	30·36	2,715	2,256	4,971
2	Saharanpur ..	2,135	439	515,908	421,563	937,471	45,593	48·63	16,053	14,847	30,900
3	Muzaffarnagar ..	1,673	475	434,307	359,958	794,265	34,746	43·75	10,243	8,585	18,828
4	Meerut ..	2,344	639	809,994	689,080	1,499,074	59,133	39·44	18,170	16,094	34,264
5	Bulandshahr ..	1,906	559	562,529	503,990	1,066,519	48,756	45·71	16,500	14,844	31,344
AGRA DIVISION.											
6	Aligarh ..	1,946	546	575,379	486,366	1,061,745	45,083	42·46	14,881	13,407	28,288
7	Muttra ..	1,450	427	341,150	277,988	619,138	22,410	36·19	9,329	8,087	17,416
8	Agra ..	1,855	498	508,298	415,857	924,155	43,219	46·76	14,080	12,320	26,400
9	Mainpuri ..	1,674	447	411,981	336,046	748,027	24,523	32·78	8,933	6,949	15,882
10	Etah ..	1,729	480	449,162	380,598	829,760	31,937	38·49	9,860	8,176	18,036
ROHILKHAND DIVISION.											
11	Bareilly ..	1,579	642	544,885	468,990	1,013,875	46,637	45·99	24,578	22,426	47,004
12	Bijnor ..	1,879	394	389,643	350,539	740,182	35,654	48·17	13,802	12,395	26,197
13	Budaun ..	2,010	485	527,823	447,524	975,347	44,485	45·61	16,153	14,178	30,331
14	Moradabad ..	2,285	524	639,022	559,631	1,198,653	60,939	50·84	21,454	20,735	42,189
15	Shahjahanpur ..	1,726	486	452,837	386,278	839,115	41,681	49·67	16,553	14,019	30,572
16	Pilibhit ..	1,350	320	229,130	202,471	431,601	19,543	45·28	10,095	8,511	18,606
ALLAHABAD DIVISION.											
17	Farrukhabad ..	1,683	509	469,009	387,624	856,633	38,333	44·75	13,820	11,762	25,582
18	Etawah ..	1,691	434	404,323	329,209	733,532	27,948	38·10	10,283	8,692	18,975
19	Cawnpore ..	2,372	484	637,319	511,345	1,148,664	36,975	32·19	15,869	13,429	29,298
20	Fatehpur ..	1,642	397	341,527	310,865	652,392	21,293	32·64	8,980	8,093	17,073
21	Allahabad ..	2,858	491	722,188	682,257	1,404,445	42,467	30·24	17,639	15,386	33,025
JHANSI DIVISION.											
22	Jhansi ..	3,634	167	315,590	290,909	606,499	25,395	41·87	14,666	13,970	28,636
23	Jalaun ..	1,549	262	213,384	192,055	405,439	15,542	38·33	7,272	6,277	13,549
24	Hamirpur ..	2,435	191	237,103	228,220	465,323	17,122	36·79	11,161	9,934	21,095
25	Banda ..	2,822	208	300,930	287,106	588,036	17,667	30·04	10,753	9,146	19,899
BENARES DIVISION.											
26	Benares ..	1,097	868	487,165	464,866	952,031	37,888	39·79	14,219	13,414	27,633
27	Mirzapur ..	5,233	138	361,635	362,548	724,183	27,603	38·12	9,840	9,064	18,904
28	Jaunpur ..	1,550	745	574,480	580,625	1,155,105	33,132	28·68	11,967	10,251	22,218
29	Ghazipur ..	1,303	600	399,163	382,407	781,570	27,560	35·26	9,853	9,002	18,855
30	Ballia ..	1,244	668	426,520	404,489	831,009	26,192	31·51	8,048	6,819	14,867
GORAKHPUR DIVISION.											
31	Gorakhpur ..	4,528	721	1,658,592	1,608,238	3,266,830	116,729	35·73	43,222	37,746	80,968
32	Basti ..	2,802	687	984,741	940,487	1,925,228	61,767	32·08	22,507	20,254	42,761
33	Azamgarh ..	2,214	690	775,866	752,146	1,528,012	53,236	34·84	18,620	16,565	35,185
KUMAUN DIVISION.											
34	Naini Tal ..	2,721	102	160,798	116,077	276,875	8,525	30·79	5,150	4,526	9,676
35	Almora ..	5,372	99	265,253	265,085	530,338	24,238	45·70	6,723	6,586	13,309
36	Garhwal ..	5,629	88	232,863	252,323	485,186	21,579	44·47	6,618	6,498	13,116
LUCKNOW DIVISION.											
37	Lucknow ..	967	749	392,559	331,785	724,344	26,369	36·40	14,842	13,376	28,218
38	Unao ..	1,787	458	433,613	385,515	819,128	24,243	29·59	10,323	8,682	19,005
39	Rae Bareli ..	1,745	537	474,742	461,661	936,403	24,450	26·11	11,153	9,538	20,691
40	Sitapur ..	2,250	484	581,655	507,826	1,089,481	41,394	37·99	15,544	13,499	29,043
41	Hardoi ..	2,232	486	586,166	498,244	1,084,410	42,058	38·78	15,817	13,164	28,981
42	Kheri ..	2,976	307	485,177	428,298	913,475	34,242	37·48	14,214	11,904	26,118
FYZABAD DIVISION.											
43	Fyzabad ..	1,731	677	588,888	583,687	1,172,575	36,768	31·36	13,495	11,600	25,095
44	Gonda ..	2,809	524	752,896	720,202	1,473,098	42,079	28·56	16,270	13,909	30,179
45	Bahraich ..	2,645	403	554,548	510,829	1,065,377	41,123	38·59	15,608	13,578	29,186
46	Sultanpur ..	1,713	586	494,593	509,319	1,003,912	28,788	28·67	13,382	11,376	24,758
47	Partabgarh ..	1,443	593	417,339	437,791	855,130	23,771	27·79	10,250	8,657	18,907
48	Bara Banki ..	1,759	585	536,896	493,058	1,029,954	35,914	34·86	15,173	12,914	28,087
Total for the Province		107,167	423	23,787,745	21,588,042	45,375,787	1,693,173	37·31	656,680	577,440	1,243,120

NOTE.—Those born dead are not included

FORM No. II.

of the United Provinces during the year 1930.

8	9											10			11
Number of deaths of males to every 100 deaths of females.	Ratio of deaths per 1,000 of population from—											Mean ratio of deaths per 1,000 during previous five years.			Number.
	Cholera.	Small-pox.	Plague	Fevers.	Dysentery and diarr- hoea.	Respiratory diseases.	Injuries.	All other causes.	All causes.			Male.	Female.	Total.	
									Male.	Female.	Total.				
120.34	.17	.11	..	15.11	1.04	2.96	.37	3.63	21.18	26.83	23.42	20.24	25.84	22.46	1
108.12	.06	.16	1.19	28.22	.45	.71	.33	1.81	31.12	35.22	32.96	31.48	35.66	33.36	2
119.31	.09	.24	.05	22.29	.23	.15	.26	.40	23.58	23.85	23.70	27.14	29.45	28.30	3
112.90	.04	.25	..	21.12	.22	.58	.21	.42	22.43	23.35	22.86	28.26	30.75	29.40	4
111.16	.08	.43	..	27.05	.34	.56	.31	.61	29.33	29.45	29.39	30.66	32.78	31.85	5
110.99	.13	.08	..	21.26	.85	.93	.31	3.09	25.86	27.56	26.64	26.95	29.08	27.93	6
115.36	.05	.85	..	23.11	.72	1.30	.44	2.17	27.34	29.09	28.13	22.56	24.25	23.32	7
114.28	.01	.10	..	19.41	.71	3.11	.70	4.52	27.70	29.62	28.57	25.91	27.79	26.81	8
128.55	.10	.18	..	19.61	.03	.04	.41	.87	21.68	20.67	21.23	22.98	21.05	22.11	9
120.60	.11	.17	..	18.69	.24	.30	.49	1.73	21.95	21.48	21.74	22.74	21.92	22.36	10
109.59	2.77	.54	.38	37.83	.27	1.24	.51	2.82	45.11	47.82	46.36	29.97	30.99	30.45	11
111.35	.66	.95	.63	27.27	.47	.42	.53	4.47	35.42	35.36	35.39	34.41	35.13	34.78	12
113.93	.19	1.09	.16	27.71	.18	.31	.69	.85	30.60	31.68	31.10	26.81	27.78	27.25	13
103.47	.34	.70	.80	28.08	1.08	1.83	.37	1.99	33.57	37.05	35.20	32.56	35.15	33.77	14
118.07	1.67	.16	.02	28.92	.29	.72	.37	4.28	36.55	36.29	36.43	31.34	31.83	31.57	15
118.61	1.09	.59	.04	35.69	.49	1.56	.32	3.17	44.06	42.03	43.11	36.13	35.09	35.69	16
117.50	.25	.32	..	22.64	.41	1.08	.45	4.70	29.46	30.34	29.86	27.85	28.21	28.01	17
118.30	.24	.32	..	19.75	.17	.45	.42	4.52	25.43	26.40	25.87	22.44	22.43	22.46	18
118.17	.80	.09	..	17.60	.43	2.49	.37	3.72	24.90	26.26	25.51	21.11	22.09	21.53	19
110.96	.95	.17	..	17.87	.24	.36	.54	6.03	26.29	26.03	26.17	16.81	15.16	16.03	20
114.64	1.81	.19	..	15.93	.30	1.16	.41	4.53	24.42	22.55	23.51	20.53	18.03	19.32	21
104.98	1.40	.36	..	36.89	.62	1.03	.63	6.27	46.41	48.02	47.21	30.31	29.52	29.93	22
115.85	..	.91	..	24.96	.27	.84	.39	6.03	34.08	32.68	33.42	22.03	20.65	21.37	23
112.35	2.09	.10	..	33.26	.18	8.53	.59	.56	47.07	43.52	45.33	27.39	24.60	26.02	24
117.57	2.02	.21	..	25.83	.12	.15	.48	5.03	35.73	31.85	33.84	20.60	17.46	19.07	25
106.00	.64	.66	.03	18.11	.84	2.01	.68	6.05	29.29	28.85	29.02	28.62	27.25	27.95	26
108.56	1.46	.06	..	18.44	.29	.33	.51	5.00	27.21	25.00	26.10	25.04	22.00	23.52	27
116.74	.57	.22	.04	13.69	.09	.19	.56	3.87	20.81	17.65	19.23	21.71	17.14	19.41	28
109.45	.88	1.17	2.03	16.26	.11	.18	.53	2.96	24.68	23.54	24.12	25.16	24.74	24.95	29
118.02	.19	.16	.70	12.49	.45	.20	.57	3.12	18.87	16.86	17.89	21.84	19.91	20.90	30
114.51	4.20	.08	.64	16.80	.13	.15	.42	2.37	26.06	23.47	24.78	19.44	16.95	18.22	31
111.12	3.92	.07	.28	13.97	.04	.07	.28	3.58	22.85	21.53	22.21	22.59	21.00	21.81	32
112.40	.45	.29	1.00	16.98	.15	.23	.61	3.31	24.00	22.02	23.03	25.11	24.10	24.62	33
113.79	1.17	.24	.05	29.71	.73	1.45	.33	1.26	32.02	38.99	34.95	29.25	35.41	31.83	34
102.08	.01	.15	..	20.66	1.62	1.17	.44	1.04	25.34	24.84	25.09	23.95	23.53	23.74	35
101.85	.23	.04	.01	20.98	3.95	.89	.36	.56	28.41	25.75	27.03	30.11	27.59	28.79	36
110.96	.32	.06	..	24.17	1.28	4.50	.40	.82	37.81	40.31	38.96	28.48	31.36	29.80	37
118.90	.13	.04	..	20.03	.10	.23	.51	2.15	23.81	22.52	23.20	20.29	18.33	19.37	38
116.93	1.66	.03	..	17.81	.12	.36	.54	1.57	23.49	20.66	22.10	19.77	15.37	16.76	39
115.15	2.42	.06	.03	20.67	.13	.13	.47	2.74	26.72	26.58	26.66	22.30	21.76	22.05	40
120.15	1.25	.12	..	21.97	.19	.14	.47	2.58	26.98	26.42	26.72	21.17	20.54	20.87	41
119.40	2.42	.02	.66	22.62	.08	.07	.56	2.15	29.30	27.79	28.59	26.48	24.76	25.68	42
116.34	.86	.29	.42	15.44	.27	.33	.43	3.36	22.91	19.87	21.40	25.04	22.18	23.62	43
116.91	4.25	.03	..	13.64	.08	.26	.43	1.79	21.61	19.31	20.49	17.28	15.09	16.21	44
114.95	1.89	.02	..	19.93	.22	.14	.38	4.82	28.14	26.58	27.39	22.71	20.93	21.85	45
117.63	1.34	.08	.01	19.18	.09	.10	.45	3.39	27.06	22.33	24.66	26.37	21.82	24.06	46
118.40	1.60	.10	..	17.77	.02	.10	.49	2.02	24.56	19.77	22.11	21.54	16.69	19.06	47
117.49	1.68	.03	.11	21.81	.12	.19	.59	2.73	28.26	26.19	27.27	22.21	20.46	21.37	48
113.72	1.35	.24	.24	20.77	.36	.77	.45	3.02	27.60	26.75	27.20	24.60	23.70	24.18	

In this or any other statements.

1	2							
Num-ber.	District.			January.	February.	March.	April.	May.
MEERUT DIVISION.								
1	Dehra Dun	..	..	340	328	317	342	642
2	Saharanpur	..	..	2,456	1,975	1,960	3,216	3,742
3	Muzaffarnagar	..	..	1,790	1,261	1,175	1,646	2,353
4	Meerut ..	..	..	3,475	2,686	2,667	2,819	3,784
5	Bulandshahr	..	..	2,786	1,930	2,104	2,881	3,354
AGRA DIVISION.								
6	Aligarh ..	..	..	1,910	1,737	1,812	2,431	3,024
7	Muttra ..	..	..	1,386	1,160	1,034	1,401	1,357
8	Agra ..	..	..	2,274	1,941	1,867	2,233	2,684
9	Mainpuri	..	..	1,219	1,182	1,051	1,610	1,485
10	Etah ..	..	..	1,234	983	1,154	1,622	1,747
ROHILKHAND DIVISION.								
11	Bareilly ..	..	..	3,299	2,612	2,609	3,642	3,910
12	Bijnor ..	..	..	1,972	1,274	1,447	2,396	3,303
13	Budaun ..	..	..	2,285	2,125	2,173	3,307	2,783
14	Moradabad	..	..	3,069	2,585	2,700	4,460	4,499
15	Shahjahanpur	..	..	1,938	1,467	1,395	2,164	3,161
16	Pilibhit ..	..	..	1,620	1,193	987	1,583	1,610
ALLAHABAD DIVISION.								
17	Farrukhabad	..	..	1,741	1,389	1,662	2,234	2,535
18	Etawah ..	..	..	1,154	1,497	1,439	2,058	1,744
19	Cawnpore	..	..	1,798	1,840	1,937	2,818	2,334
20	Fatehpur..	..	..	1,365	1,022	872	1,217	1,236
21	Allahabad	..	..	1,957	2,133	2,218	2,696	2,159
JHANSI DIVISION.								
22	Jhansi ..	..	..	1,862	1,185	1,813	2,368	2,035
23	Jalaun ..	..	..	1,092	981	631	1,323	984
24	Hamirpur	..	..	1,226	1,009	947	1,330	1,414
25	Banda ..	..	..	1,234	1,163	1,151	1,277	1,009
BENARES DIVISION.								
26	Benares .	..	..	1,898	1,583	1,901	2,471	2,261
27	Mirzapur..	..	..	1,351	971	1,374	1,775	1,742
28	Jaunpur ..	..	..	1,462	1,309	1,152	1,990	1,900
29	Ghazipur..	..	..	1,314	1,096	1,416	1,516	1,413
30	Ballia ..	..	..	1,145	859	1,187	1,089	882
GORAKHPUR DIVISION.								
31	Gorakhpur	..	..	5,802	4,477	4,765	8,003	10,216
32	Basti ..	..	..	3,392	2,354	2,949	4,890	4,798
33	Azamgarh	..	..	2,357	2,135	2,522	3,124	3,632
KUMAUN DIVISION.								
34	Naini Tal	..	..	868	588	647	1,000	1,064
35	Almora ..	..	..	841	769	800	1,101	1,871
36	Garhwal ..	..	..	800	758	750	1,085	1,838
LUCKNOW DIVISION.								
37	Lucknow..	..	..	1,802	1,414	1,447	1,854	2,280
38	Unao ..	..	..	1,287	1,160	1,016	1,301	1,291
39	Rae Bareli	..	..	1,377	1,271	1,225	1,672	1,841
40	Sitapur ..	..	..	2,030	1,361	1,358	1,526	1,855
41	Hardoi ..	..	..	1,537	1,566	1,369	1,588	1,614
42	Kheri ..	..	..	2,520	1,543	1,573	1,735	1,806
FYZABAD DIVISION.								
43	Fyzabad ..	..	..	2,153	1,641	1,500	2,022	2,265
44	Gonda ..	..	..	1,789	1,441	1,639	3,115	3,726
45	Bahraich..	..	..	2,226	1,968	1,949	3,111	3,285
46	Sultanpur	..	..	1,736	1,140	1,556	1,860	2,285
47	Partabgarh	..	..	1,102	1,150	984	1,742	1,777
48	Bara Banki	..	..	1,662	1,640	1,403	1,833	2,389
Total for the Province				88,933	72,852	75,604	106,477	116,919
Ratio of deaths per 1,000 of population.				1.96	1.60	1.67	2.35	2.58

FORM No. III.

Provinces during **each month** of the year 1930.

3							4	5
June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.	Num- ber.
639	396	433	361	417	413	343	4,971	1
3,648	2,452	2,162	2,223	2,219	2,308	2,539	30,900	2
2,104	1,895	1,328	1,256	1,268	1,337	1,415	18,828	3
4,000	2,580	2,633	2,514	2,330	2,640	2,136	34,264	4
3,659	2,411	2,355	2,233	2,360	2,743	2,528	31,344	5
2,701	1,991	2,017	2,760	2,531	2,741	2,633	28,288	6
1,340	1,021	1,094	1,862	2,057	1,902	1,802	17,416	7
2,749	1,815	1,868	2,564	2,057	2,299	2,049	26,400	8
1,476	1,292	1,082	1,151	1,471	1,496	1,367	15,882	9
1,927	1,705	1,432	1,605	1,551	1,317	1,759	18,036	10
3,501	3,806	3,283	4,771	5,108	5,744	4,719	47,004	11
2,926	1,684	2,350	2,282	2,078	1,961	2,524	26,197	12
2,935	2,575	2,481	2,677	2,375	2,418	2,197	30,331	13
4,380	2,901	3,362	4,070	3,402	3,417	3,344	42,189	14
2,232	2,379	2,515	3,636	3,386	3,363	2,936	30,572	15
1,934	1,190	1,309	1,708	1,886	2,025	1,561	18,606	16
2,592	2,251	2,233	2,363	2,279	2,179	2,124	25,582	17
1,872	1,567	1,409	1,635	1,403	1,710	1,487	18,975	18
3,013	2,360	2,219	3,096	3,177	2,425	2,281	29,298	19
1,737	1,258	1,120	1,700	1,855	1,977	1,714	17,073	20
3,125	2,743	3,011	3,092	3,301	3,229	3,351	33,025	21
2,803	2,227	2,962	3,492	3,288	2,722	1,879	28,636	22
1,304	1,119	800	1,376	1,469	1,590	880	13,549	23
1,999	1,748	1,926	3,457	2,834	1,934	1,271	21,095	24
2,336	1,489	1,417	1,974	2,506	2,369	1,974	19,899	25
2,600	1,988	2,754	2,785	2,610	2,533	2,249	27,633	26
1,570	1,613	1,694	1,457	1,897	1,818	1,642	18,904	27
2,162	1,944	1,983	1,932	1,876	2,157	2,351	22,218	28
1,730	1,722	1,577	1,785	1,636	1,904	1,746	18,855	29
1,304	1,467	1,292	1,626	1,325	1,308	1,383	14,867	30
8,273	6,894	6,475	6,006	6,846	6,469	6,742	80,968	31
4,939	4,011	3,764	2,544	2,878	3,321	2,921	42,761	32
3,152	2,673	2,857	2,923	3,153	3,476	3,181	35,185	33
909	597	814	748	748	859	834	9,676	34
1,909	1,565	1,009	797	1,006	856	785	13,309	35
1,665	1,589	1,203	932	816	784	896	13,116	36
2,113	1,514	2,326	3,640	4,060	3,327	2,441	28,218	37
1,464	1,596	1,291	1,371	2,858	2,227	2,143	19,005	38
2,330	1,467	1,592	1,614	1,819	2,230	2,253	20,691	39
2,685	2,965	3,055	3,673	3,014	2,675	2,846	29,043	40
2,294	2,315	2,628	3,429	4,299	3,593	2,749	28,981	41
1,933	2,248	2,475	2,534	2,500	2,811	2,440	26,118	42
2,589	2,716	2,139	1,709	1,822	1,943	2,596	25,095	43
3,197	3,131	3,022	2,141	2,556	2,438	1,984	30,179	44
3,163	2,088	2,155	2,292	2,259	2,230	2,460	29,186	45
3,064	2,232	1,824	2,054	2,217	2,622	2,168	24,758	46
2,120	1,388	1,527	1,539	1,763	1,818	1,997	18,907	47
2,926	2,841	2,795	3,278	2,304	2,690	2,326	28,087	48
123,033	101,419	101,052	112,667	114,870	114,348	105,946	1,234,120	
2·71	2·23	2·23	2·48	2·53	2·52	2·33	27·20	

Deaths registered **according to age** in the districts

1	2		Not exceeding one month.						
Number.	District.		Male.			Female.			Total.
			Under one week.	Over one week.	Total.	Under one week.	Over one week.	Total.	
MEERUT DIVISION.									
1	Dehra Dun	...	161	91	252	126	80	206	458
2	Saharanpur	..	902	780	1,682	886	696	1,582	3,264
3	Muzaffarnagar	...	368	450	818	383	320	703	1,521
4	Meerut	...	801	665	1,466	742	607	1,349	2,815
5	Bulandshahr	..	755	628	1,383	675	513	1,188	2,571
AGRA DIVISION.									
6	Aligarh	...	866	527	1,393	741	372	1,113	2,506
7	Muttra	...	386	269	655	322	210	532	1,187
8	Agra	...	927	593	1,520	706	501	1,207	2,727
9	Mainpuri	...	536	322	858	460	257	717	1,575
10	Etah	...	640	372	1,012	514	258	772	1,784
ROHILKHAND DIVISION.									
11	Bareilly	...	1,486	733	2,219	1,266	619	1,885	4,104
12	Bijnor	...	1,079	531	1,610	882	452	1,334	2,944
13	Budaun	...	1,111	687	1,798	1,018	583	1,601	3,399
14	Moradabad	...	1,380	929	2,309	1,139	818	1,957	4,266
15	Shahjahanpur	...	1,468	544	2,012	1,138	451	1,589	3,601
16	Pilibhit	...	836	329	1,165	632	241	873	2,038
ALLAHABAD DIVISION.									
17	Farrukhabad	...	1,661	504	2,165	1,239	397	1,636	3,801
18	Etawah	...	745	388	1,133	668	316	984	2,117
19	Cawnpore	...	959	481	1,440	754	396	1,150	2,590
20	Fatehpur	...	804	373	1,177	707	244	951	2,128
21	Allahabad	...	1,523	824	2,347	1,197	686	1,883	4,230
JHANSI DIVISION.									
22	Jhansi	...	1,045	447	1,492	849	398	1,247	2,739
23	Jalaun	...	516	237	753	386	207	593	1,346
24	Hamirpur	...	614	311	925	527	230	757	1,682
25	Banda	...	514	304	818	348	243	591	1,409
BENARES DIVISION.									
26	Benares	...	1,239	858	2,097	984	650	1,634	3,731
27	Mirzapur	...	940	483	1,423	811	384	1,195	2,618
28	Jaunpur	...	949	633	1,582	783	467	1,250	2,832
29	Ghazipur	...	953	341	1,294	726	250	976	2,270
30	Ballia	...	1,015	330	1,345	714	224	938	2,283
GORAKHPUR DIVISION.									
31	Gorakhpur	...	2,060	1,875	3,935	1,732	1,496	3,228	7,163
32	Basti	...	846	1,824	2,670	755	1,478	2,233	4,903
33	Azamgarh	...	1,506	749	2,255	1,179	630	1,809	4,064
KUMAUN DIVISION.									
34	Naini Tal	...	331	213	544	252	194	446	990
35	Almora	...	192	276	468	196	206	402	870
36	Garhwal	...	247	245	492	206	183	389	881
LUCKNOW DIVISION.									
37	Lucknow	...	1,066	760	1,826	868	607	1,475	3,301
38	Unao	...	650	444	1,094	527	329	856	1,950
39	Rae Bareli	...	623	338	961	438	256	694	1,655
40	Sitapur	...	1,153	641	1,794	892	492	1,384	3,178
41	Hardoi	...	1,092	557	1,649	926	437	1,363	3,012
42	Kheri	...	828	413	1,241	664	361	1,025	2,266
FYZABAD DIVISION.									
43	Fyzabad	...	1,124	649	1,773	926	515	1,441	3,214
44	Gonda	...	845	505	1,350	658	401	1,059	2,409
45	Bahraich	...	1,444	664	2,108	1,237	525	1,762	3,870
46	Sultanpur	...	1,043	563	1,606	788	394	1,182	2,788
47	Partabgarh	...	590	361	951	476	261	737	1,688
48	Bara Banki	...	1,174	480	1,654	859	395	1,254	2,908
Total for the Province			43,993	26,521	70,514	35,902	21,230	57,132	127,646
Population			...	...	...	...	...	...	...
Ratio per 1,000 living			...	...	...	...	...	...	...

FORM No. IV.

of the United Provinces during the year 1930.

3									4	
Under one year.									1 and under 5 years.	
Over one month and not exceeding six months.			Over six months and not exceeding twelve months.			Total.			Male.	Female.
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.		
263	176	439	161	148	309	676	530	1,206	435	398
1,383	1,249	2,632	1,614	1,379	2,993	4,679	4,210	8,889	3,612	3,200
939	778	1,717	1,264	928	2,192	3,021	2,409	5,430	2,734	2,060
1,520	1,364	2,884	1,909	1,563	3,472	4,895	4,276	9,171	5,125	4,159
1,461	1,353	2,814	1,725	1,515	3,240	4,569	4,056	8,625	5,454	4,615
951	797	1,748	1,098	977	2,075	3,442	2,887	6,329	5,008	4,087
589	552	1,141	683	583	1,266	1,927	1,667	3,594	2,733	2,266
1,271	970	2,241	994	801	1,795	3,785	2,978	6,763	3,849	3,067
651	494	1,145	648	474	1,122	2,157	1,685	3,842	1,899	1,361
580	494	1,074	675	570	1,245	2,267	1,836	4,103	2,687	1,948
1,754	1,597	3,351	1,468	1,349	2,817	5,441	4,831	10,272	6,769	6,412
994	865	1,859	1,030	952	1,982	3,634	3,151	6,785	3,805	3,519
1,131	1,042	2,173	1,367	1,246	2,613	4,296	3,889	8,185	4,766	4,165
1,844	1,606	3,450	1,898	1,693	3,591	6,051	5,256	11,307	6,209	6,166
1,190	923	2,113	1,171	1,053	2,224	4,373	3,565	7,938	4,274	3,635
678	630	1,308	591	512	1,103	2,434	2,015	4,449	2,196	2,119
1,023	830	1,853	1,049	887	1,936	4,237	3,353	7,590	3,300	2,798
871	675	1,546	867	676	1,543	2,871	2,335	5,206	2,322	1,913
1,269	1,033	2,302	1,257	1,030	2,287	3,966	3,213	7,179	3,764	3,116
676	590	1,266	644	554	1,198	2,497	2,095	4,592	2,036	1,863
1,250	992	2,242	1,034	756	1,790	4,631	3,631	8,262	3,360	3,271
1,091	963	2,054	1,055	975	2,030	3,638	3,185	6,823	3,861	3,813
554	502	1,056	715	577	1,292	2,022	1,672	3,694	1,975	1,597
745	634	1,379	859	704	1,563	2,529	2,095	4,624	3,197	3,006
670	509	1,179	545	434	979	2,033	1,534	3,567	2,404	2,164
1,171	948	2,119	795	661	1,456	4,063	3,243	7,306	2,189	2,219
828	661	1,489	439	352	791	2,690	2,208	4,898	1,690	1,828
963	682	1,645	512	401	913	3,057	2,333	5,390	1,906	1,740
584	450	1,034	454	353	807	2,332	1,779	4,111	1,726	1,694
390	236	626	268	186	454	2,003	1,360	3,363	1,129	974
3,050	2,294	5,344	1,485	1,039	2,524	8,470	6,561	15,031	7,671	7,425
1,370	1,075	2,445	909	709	1,618	4,949	4,017	8,966	4,635	4,468
1,448	1,076	2,524	770	631	1,401	4,473	3,516	7,989	3,451	3,390
335	317	652	326	292	618	1,205	1,055	2,260	783	802
699	628	1,327	580	520	1,100	1,747	1,550	3,297	1,636	1,623
662	628	1,290	609	524	1,133	1,763	1,541	3,304	1,644	1,520
886	716	1,602	834	754	1,583	3,546	2,945	6,491	3,051	2,891
528	461	989	538	563	1,101	2,160	1,880	4,040	2,130	1,873
582	486	1,068	464	431	895	2,007	1,611	3,618	2,555	2,096
959	806	1,765	806	709	1,515	3,559	2,899	6,458	3,555	3,187
930	740	1,670	896	750	1,646	3,475	2,853	6,328	3,928	3,407
684	507	1,191	865	702	1,567	2,790	2,234	5,024	3,373	2,875
937	785	1,722	670	544	1,214	3,380	2,770	6,150	2,691	2,348
826	721	1,547	686	594	1,280	2,862	2,374	5,236	3,354	2,976
915	781	1,696	635	490	1,125	3,658	3,033	6,691	3,053	2,935
710	564	1,274	645	503	1,148	2,961	2,249	5,210	3,191	2,774
719	555	1,274	546	445	991	2,216	1,737	3,953	2,148	1,881
701	581	1,282	779	673	1,452	3,134	2,508	5,642	3,676	3,296
46,225	38,316	84,541	41,832	35,162	76,994	153,571	130,610	282,181	152,939	136,940
...	...	...	...	...	...	714,286	674,414	1,388,700	2,023,596	2,098,014
...	...	...	...	...	...	222.00	193.66	208.24	75.58	65.27

Deaths registered **according to age** in the districts

Number.	2	District.	5		6		7		8	
			5 and under 10 years.		10 and under 15 years.		15 and under 20 years.		20 and under 30 years.	
			Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
MEERUT DIVISION.										
1	Dehra Dun	...	76	89	70	57	85	124	220	288
2	Saharanpur	...	640	681	497	500	481	595	950	1,314
3	Muzaffarnagar	...	370	313	229	206	247	287	465	640
4	Meerut	...	811	578	379	382	369	527	813	1,232
5	Bulandshahr	...	746	575	361	271	320	415	778	1,065
AGRA DIVISION.										
6	Aligarh	...	679	509	366	316	359	515	736	1,139
7	Muttra	...	511	441	246	209	209	268	571	652
8	Agra	...	537	440	283	322	332	568	825	1,147
9	Mainpuri	...	393	238	287	162	317	347	727	758
10	Etah	...	549	401	323	272	357	398	636	794
ROHILKHAND DIVISION.										
11	Bareilly	...	1,524	1,390	686	590	662	713	1,688	2,009
12	Bijnor	...	746	619	442	340	431	400	836	951
13	Budaun	...	710	649	393	307	387	514	833	989
14	Moradabad	...	1,122	977	536	577	521	663	1,143	1,760
15	Shahjahanpur	...	745	648	396	363	445	446	925	1,037
16	Pilibhit	...	602	487	282	188	303	285	798	779
ALLAHABAD DIVISION.										
17	Farrukhabad	...	509	451	298	287	288	431	804	1,095
18	Etawah	...	419	330	281	261	273	381	743	872
19	Cawnpore	...	727	597	439	374	425	551	970	1,286
20	Fatehpur	...	422	360	214	178	180	213	533	645
21	Allahabad	...	865	792	556	502	468	469	1,272	1,250
JHANSI DIVISION.										
22	Jhansi	...	938	806	409	312	366	418	875	923
23	Jalaun	...	415	345	228	147	194	188	389	434
24	Hamirpur	...	638	525	258	199	224	174	611	542
25	Banda	...	637	470	317	216	306	234	809	718
BENARES DIVISION.										
26	Benares	...	682	719	555	531	497	647	943	1,147
27	Mirzapur	...	526	523	363	249	254	247	917	845
28	Jaunpur	...	514	411	382	344	354	358	956	885
29	Ghazipur	...	573	554	386	438	280	261	693	801
30	Ballia	...	385	381	336	276	313	263	589	606
GORAKHPUR DIVISION.										
31	Gorakhpur	...	2,859	2,443	1,684	1,378	1,481	1,193	3,792	3,854
32	Basti	...	1,627	1,347	839	662	635	520	1,590	1,742
33	Azamgarh	...	941	906	637	596	446	499	1,340	1,442
KUMAUN DIVISION.										
34	Naini Tal	...	260	293	213	181	218	215	556	544
35	Almora	...	311	322	158	186	164	184	369	501
36	Garhwal	...	274	251	135	165	180	213	409	630
LUCKNOW DIVISION.										
37	Lucknow	...	738	620	293	332	310	469	765	1,136
38	Unao	...	509	426	331	254	314	284	644	682
39	Rae Bareli	...	564	479	359	286	301	286	750	813
40	Sitapur	...	928	762	542	420	409	444	910	1,139
41	Hardoi	...	859	746	525	378	398	422	886	978
42	Kheri	...	830	661	462	310	406	386	957	1,085
FYZABAD DIVISION.										
43	Fyzabad	...	590	506	405	347	369	322	910	909
44	Gonda	...	995	730	558	360	376	333	1,150	1,233
45	Bahraich	...	848	664	528	346	417	323	1,014	1,093
46	Sultanpur	...	670	502	346	240	287	232	819	771
47	Partabgarh	...	507	407	358	240	263	227	694	608
48	Bara Banki	...	772	563	408	293	332	391	816	1,062
Total for the Province			34,093	28,927	19,629	16,365	17,553	18,845	42,419	48,875
Population			3,351,783	3,039,972	2,898,415	2,196,894	2,038,900	1,609,368	3,999,332	3,789,269
Ratio per 1,000 living			10.17	9.51	6.77	7.45	8.61	11.71	10.61	12.90

FORM No. IV.

of the United Provinces during the year 1930—(concluded).

9		10		11		12		13		14
30 and under 40 years.		40 and under 50 years.		50 and under 60 years.		60 years and upwards.		Total.		Number.
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
236	201	205	127	217	128	495	304	2,715	2,256	1
1,064	1,060	943	755	1,014	705	2,173	1,827	16,053	14,847	2
481	544	506	395	627	572	1,563	1,159	10,243	8,585	3
800	928	886	737	1,058	899	3,034	2,376	18,170	16,094	4
693	808	686	589	896	717	1,997	1,733	16,500	14,844	5
727	865	771	688	860	700	1,933	1,701	14,881	13,407	6
544	503	556	452	618	485	1,414	1,144	9,329	8,087	7
760	838	845	725	952	701	1,912	1,534	14,080	12,320	8
798	687	781	599	753	517	821	595	8,933	6,949	9
598	604	577	508	759	531	1,107	884	9,860	8,176	10
1,747	1,581	1,754	1,182	1,667	1,273	2,640	2,445	24,578	22,426	11
846	782	728	606	815	688	1,519	1,339	13,802	12,395	12
779	741	957	589	1,067	727	1,965	1,608	16,153	14,178	13
997	1,198	1,125	904	1,220	954	2,530	2,280	21,454	20,735	14
926	876	1,219	770	1,337	939	1,883	1,735	16,553	14,019	15
883	649	851	490	818	613	928	886	10,095	8,511	16
797	809	907	639	1,085	769	1,595	1,130	13,820	11,762	17
725	669	779	573	786	545	1,084	813	10,283	8,692	18
1,075	1,016	1,151	854	1,342	851	2,010	1,571	15,869	13,429	19
559	545	651	607	745	601	1,143	986	8,980	8,093	20
1,347	1,171	1,419	1,082	1,388	1,142	2,333	2,076	17,639	15,386	21
925	869	1,102	834	1,071	974	1,481	1,836	14,666	13,970	22
474	439	460	388	509	428	606	639	7,272	6,277	23
631	577	923	733	834	741	1,316	1,342	11,161	9,934	24
951	813	1,040	871	1,001	814	1,255	1,312	10,753	9,146	25
839	886	942	706	1,031	859	2,478	2,457	14,219	13,414	26
782	724	861	755	699	679	1,058	1,006	9,840	9,064	27
1,012	840	1,062	826	1,057	873	1,667	1,641	11,967	10,251	28
739	703	813	626	799	675	1,512	1,471	9,853	9,002	29
657	579	612	487	589	404	1,435	1,489	8,048	6,819	30
4,263	3,731	3,507	2,669	3,901	3,184	5,594	5,308	43,222	37,746	31
1,726	1,623	1,743	1,392	1,657	1,439	3,056	3,044	22,507	20,254	32
1,385	1,260	1,573	1,068	1,550	1,173	2,824	2,715	18,620	16,565	33
612	461	522	310	342	314	439	351	5,150	4,526	34
346	418	345	315	459	406	1,188	1,081	6,723	6,586	35
338	413	434	356	479	410	962	999	6,618	6,498	36
975	967	1,168	765	1,234	831	2,762	2,370	14,842	13,376	37
734	699	787	596	966	690	1,748	1,298	10,323	8,682	38
953	801	914	768	1,181	907	1,569	1,491	11,153	9,538	39
1,034	994	1,131	862	1,167	852	2,309	1,940	15,544	13,499	40
1,040	926	1,176	859	1,267	837	2,263	1,758	15,817	13,164	41
1,149	1,040	1,218	847	1,044	753	1,985	1,713	14,214	11,904	42
1,030	870	974	684	1,092	863	2,054	1,981	13,495	11,600	43
1,371	1,297	1,495	1,102	1,372	1,027	2,737	2,427	16,270	13,909	44
1,303	1,131	1,219	900	1,175	900	2,373	2,253	15,608	13,578	45
933	935	907	671	936	766	2,332	2,236	13,382	11,376	46
829	694	817	598	937	806	1,481	1,459	10,250	8,657	47
953	980	1,117	773	1,072	773	2,893	2,275	15,173	12,914	48
45,396	42,745	47,179	35,632	49,445	38,485	89,456	80,018	656,680	577,440	
3,416,415	3,147,346	2,552,757	2,320,241	1,592,005	1,450,417	1,200,254	1,262,103	*23,787,745	†21,588,042	
13.29	13.58	18.48	15.36	31.06	74.53	26.53	63.40	27.60	26.75	

* Includes 2 persons of unspecified ages.

† Includes 4 persons of unspecified ages.

Paragraph 24 of Chapter II.]

ANNUAL

Deaths registered **according to classes and sexes**

1	2		Population					
Number.	District.		Muhammadans.			Hindus.		
			Male.	Female.	Total.	Male.	Female.	Total.
MEERUT DIVISION.								
1	Dehra Dun	...	19,174	10,757	29,931	103,997	69,571	173,568
2	Saharanpur	...	167,821	140,585	308,406	335,801	272,231	608,032
3	Muzaffarnagar	...	122,061	104,270	226,331	295,836	242,406	538,242
4	Meerut	...	183,384	159,274	342,658	584,032	495,014	1,079,046
5	Bulandshahr	...	104,228	94,813	199,041	437,660	390,468	828,128
AGRA DIVISION.								
6	Aligarh	...	71,812	60,550	132,362	484,713	409,054	893,767
7	Muttra	...	32,532	26,651	59,183	302,155	246,266	548,421
8	Agra	...	60,417	49,724	110,141	434,327	356,244	790,571
9	Mainpuri	...	21,096	18,190	39,286	380,613	309,805	690,418
10	Etah ...	...	46,750	40,161	86,911	389,634	329,142	718,776
ROHILKHAND DIVISION.								
11	Bareilly	...	138,725	124,025	262,750	393,311	334,068	727,379
12	Bijnor	...	137,488	127,922	265,410	242,444	214,484	456,928
13	Budaun	...	88,126	77,902	166,028	429,587	360,795	790,382
14	Moradabad	...	228,916	207,132	436,048	395,270	339,146	734,416
15	Shahjahanpur	...	67,711	62,068	129,779	382,171	321,726	703,897
16	Pilibhit	...	40,711	38,338	79,049	186,295	162,274	348,569
ALLAHABAD DIVISION.								
17	Farrukhabad	...	52,430	47,229	99,659	411,672	336,112	747,784
18	Etawah	...	22,911	20,088	42,999	377,097	305,602	682,699
19	Cawnpore	...	62,911	48,742	111,653	568,932	458,813	1,027,745
20	Fatehpur	...	38,316	37,507	75,823	301,761	272,144	573,905
21	Allahabad	...	92,807	86,170	178,977	624,241	592,678	1,216,919
JHANSI DIVISION.								
22	Jhansi	...	18,161	14,782	32,943	288,606	269,529	558,135
23	Jalaun	...	13,765	12,809	26,574	198,652	178,483	377,135
24	Hamirpur	...	14,719	15,138	29,857	221,745	212,190	433,935
25	Banda	...	17,356	17,292	34,648	283,040	269,340	552,380
BENARES DIVISION.								
26	Benares	...	50,920	46,851	97,771	434,846	416,762	851,608
27	Mirzapur	...	21,967	21,277	43,244	338,498	339,998	678,496
28	Jaunpur	...	49,995	51,568	101,563	524,105	528,726	1,052,831
29	Ghazipur	...	34,557	37,735	72,292	364,288	344,369	708,657
30	Ballia	...	25,625	26,667	52,292	400,129	377,131	777,260
GORAKHPUR DIVISION.								
31	Gorakhpur	...	168,843	161,798	330,641	1,487,976	1,445,011	2,932,987
32	Basti	...	167,210	158,583	325,793	817,286	781,720	1,599,006
33	Azamgarh	...	91,969	91,472	183,441	683,423	660,224	1,344,647
KUMAUN DIVISION.								
34	Naini Tal	...	32,983	22,779	55,762	124,272	90,422	214,694
35	Almora	...	1,840	1,183	3,023	262,557	262,907	525,464
36	Garhwal	...	2,695	1,134	3,829	229,561	250,664	480,225
LUCKNOW DIVISION.								
37	Lucknow	...	81,140	70,580	151,720	305,608	257,928	563,536
38	Unao	...	36,895	33,496	70,391	396,139	351,542	747,681
39	Rae Bareli	...	41,810	41,944	83,754	432,678	419,514	852,192
40	Sitapur	...	86,271	78,632	164,903	494,684	428,597	923,281
41	Hardoi	...	62,736	55,759	118,495	521,518	440,805	962,323
42	Kheri	...	70,989	64,092	135,081	413,423	363,554	776,977
FYZABAD DIVISION								
43	Fyzabad	...	63,925	63,863	127,788	523,546	519,338	1,042,884
44	Gonda	...	126,188	121,798	247,986	626,311	598,121	1,224,432
45	Bahraich	...	113,000	103,892	216,892	440,749	406,257	847,006
46	Sultanpur	...	55,769	60,622	116,391	438,688	448,533	887,221
47	Partabgarh	...	45,808	47,726	93,534	371,353	389,911	761,264
48	Bara Banki	...	90,688	87,311	177,999	445,584	405,191	850,775
Total for the Province			3,388,151	3,092,381	6,481,032	20,130,814	18,274,810	38,405,624

FORM No. V.

in the districts of the United Provinces during the year 1930.

3									4
according to census of 1921.									
Christians.			Other classes.			Total.			Number.
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total	
2,933	2,673	5,606	2,072	1,066	3,138	128,176	84,067	212,243	1
3,293	2,186	5,479	8,993	6,561	15,554	515,908	421,563	937,471	2
3,451	2,964	6,415	12,959	10,318	23,277	434,307	359,958	794,265	3
16,995	14,125	31,120	25,583	20,667	46,250	809,994	689,080	1,499,074	4
6,203	6,208	12,411	14,438	12,501	26,939	562,529	503,990	1,066,519	5
7,665	7,455	15,120	11,189	9,307	20,496	575,379	486,366	1,061,745	6
3,320	2,767	6,087	3,143	2,304	5,447	341,150	277,988	619,138	7
4,199	2,621	6,820	9,355	7,268	16,623	508,298	415,857	924,155	8
1,552	1,383	2,935	8,720	6,668	15,388	411,981	336,046	748,027	9
6,298	5,732	12,030	6,480	5,563	12,043	449,162	380,598	829,760	10
7,186	6,522	13,708	5,663	4,375	10,038	544,885	468,990	1,013,875	11
812	840	1,652	8,899	7,293	16,192	389,643	350,539	740,182	12
6,935	6,201	13,136	3,175	2,626	5,801	527,823	447,524	975,347	13
8,714	8,002	16,716	6,122	5,351	11,473	639,022	559,631	1,198,653	14
1,768	1,687	3,455	1,187	797	1,984	452,837	386,278	839,115	15
1,426	1,271	2,697	698	588	1,286	229,130	202,471	431,601	16
1,561	1,455	3,016	3,346	2,828	6,174	469,009	387,624	856,633	17
693	549	1,242	3,622	2,970	6,592	404,323	329,209	733,532	18
3,564	2,368	5,932	1,912	1,422	3,334	637,319	511,345	1,148,664	19
227	172	399	1,223	1,042	2,265	341,527	310,865	652,392	20
4,102	2,776	6,878	1,038	633	1,671	722,188	682,257	1,404,445	21
2,770	1,382	4,152	6,053	5,216	11,269	315,590	290,909	606,499	22
138	113	251	829	650	1,479	213,384	192,055	405,439	23
188	476	664	451	416	867	237,103	228,220	465,323	24
96	71	167	438	403	841	300,930	287,106	588,036	25
933	924	1,857	466	329	795	487,165	464,866	952,031	26
369	427	796	801	846	1,647	361,635	362,548	724,183	27
71	50	121	309	281	590	574,480	580,625	1,155,105	28
193	181	374	125	122	247	399,163	382,407	781,570	29
485	462	947	281	229	510	426,520	404,489	831,009	30
468	385	853	1,305	1,044	2,349	1,658,592	1,608,238	3,266,830	31
58	56	114	187	128	315	984,741	940,487	1,925,228	32
70	47	117	404	403	807	775,866	752,146	1,528,012	33
1,343	1,101	2,444	2,200	1,775	3,975	160,798	116,077	276,875	34
671	876	1,547	185	119	304	265,253	265,085	530,338	35
491	483	974	116	42	158	232,863	252,323	485,186	36
4,818	2,712	7,530	993	565	1,558	392,559	331,785	724,344	37
100	75	175	479	402	881	433,613	385,515	819,128	38
96	74	170	158	129	287	474,742	461,661	936,403	39
301	286	587	399	311	710	581,655	507,826	1,089,481	40
448	540	988	1,464	1,140	2,604	586,166	498,244	1,084,410	41
338	258	596	427	394	821	485,177	428,298	913,475	42
1,151	275	1,426	266	211	477	588,888	583,687	1,172,575	43
284	202	486	113	81	194	752,896	720,202	1,473,098	44
149	101	250	650	579	1,229	554,548	510,829	1,065,377	45
34	96	130	102	68	170	494,593	509,319	1,003,912	46
9	10	19	169	144	313	417,339	437,791	855,130	47
55	74	129	569	482	1,051	536,896	493,058	1,029,954	48
109,024	91,694	200,718	159,756	128,657	288,413	23,787,745	21,588,042	45,375,787	

Paragraph 24 of Chapter II.]

ANNUAL

Deaths registered **according to classes and sexes**

1 Number.	2 District.		Muhammadans.			Hindus.		
			Male.	Female.	Total.	Male	Female.	Total.
	MEERUT DIVISION.							
1	Dehra Dun	...	454	427	881	2,206	1,769	3,975
2	Saharanpur	...	5,615	5,403	11,018	10,405	9,401	19,806
3	Muzaffarnagar	...	2,873	2,550	5,423	7,364	6,022	13,386
4	Meerut	...	3,990	3,762	7,752	14,044	12,224	26,268
5	Bulandshahr	...	3,180	3,001	6,181	13,280	11,790	25,070
	AGRA DIVISION.							
6	Aligarh	...	1,828	1,775	3,603	13,038	11,615	24,653
7	Muttra	...	737	739	1,476	8,528	7,302	15,830
8	Agra	...	1,615	1,564	3,179	12,441	10,729	23,170
9	Mainpuri	...	375	319	694	8,547	6,619	15,166
10	Etah	...	955	906	1,861	8,881	7,252	16,133
	ROHILKHAND DIVISION.							
11	Bareilly	...	5,543	5,351	10,894	18,926	16,919	35,845
12	Bijnor	...	4,859	4,747	9,606	8,832	7,533	16,470
13	Budaun	...	2,689	2,640	5,329	13,429	11,505	24,934
14	Moradabad	...	7,843	8,088	15,931	13,462	12,503	25,965
15	Shahjahanpur	...	2,275	2,249	4,524	14,255	11,745	26,000
16	Pilibhit	...	1,879	1,664	3,543	8,122	6,748	14,870
	ALLAHABAD DIVISION.							
17	Farrukhabad	...	1,523	1,341	2,864	12,274	10,400	22,674
18	Etawah	...	698	719	1,417	9,576	7,961	17,537
19	Cawnpore	...	1,619	1,559	3,178	14,236	11,852	26,088
20	Fatehpur	...	1,115	1,010	2,125	7,831	7,081	14,942
21	Allahabad	...	2,166	2,120	4,286	15,429	13,241	28,670
	JHANSI DIVISION.							
22	Jhansi	...	631	706	1,337	13,889	13,163	27,052
23	Jalaun	...	414	346	760	6,857	5,930	12,787
24	Hamirpur	...	605	558	1,163	10,556	9,375	19,931
25	Banda	...	585	550	1,135	10,166	8,595	18,761
	BENARES DIVISION.							
26	Benares	...	1,774	1,951	3,725	12,409	11,443	23,852
27	Mirzapur	...	507	531	1,038	9,331	8,526	17,857
28	Jaunpur	...	1,090	1,112	2,202	10,876	9,139	20,015
29	Ghazipur	...	983	980	1,963	8,865	8,015	16,880
30	Ballia	...	563	527	1,090	7,484	6,289	13,773
	GORAKHPUR DIVISION.							
31	Gorakhpur	...	4,480	3,999	8,479	38,711	33,727	72,438
32	Basti	...	3,807	3,473	7,280	18,700	16,776	35,476
33	Azamgarh	...	2,317	2,444	4,761	16,303	14,119	30,422
	KUMAUN DIVISION.							
34	Naini Tal	...	1,544	1,441	2,985	3,559	3,053	6,612
35	Almora	...	31	47	78	6,656	6,516	13,172
36	Garhwal	...	25	31	56	6,589	6,466	13,055
	LUCKNOW DIVISION.							
37	Lucknow	...	3,024	2,965	5,989	11,758	10,371	22,129
38	Unao	...	833	886	1,719	9,487	7,794	17,281
39	Rae Bareilly	...	1,067	1,075	2,142	10,083	8,462	18,545
40	Sitapur	...	2,332	2,155	4,487	13,202	11,334	24,536
41	Hardoi	...	1,678	1,452	3,130	14,123	11,699	25,822
42	Kheri	...	1,924	1,776	3,700	12,264	10,099	22,363
	FYZABAD DIVISION.							
43	Fyzabad	...	1,475	1,426	2,901	12,014	10,166	22,180
44	Gonda	...	2,643	2,370	5,013	13,618	11,528	25,146
45	Bahraich	...	2,844	2,499	5,343	12,748	11,064	23,812
46	Sultanpur	...	1,538	1,444	2,982	11,841	9,932	21,773
47	Partabgarh	...	955	875	1,830	9,294	7,782	17,076
48	Bara Banki	...	2,355	2,251	4,606	12,811	10,656	23,467
	Total for the Province		95,905	91,804	187,709	559,330	484,235	1,043,565

FORM No. V.

in the districts of the United Provinces during the year 1930—(continued).

5 Number of deaths registered.									Number.
Christians.			Other classes.			Total.			
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	
44	46	90	11	14	25	2,715	2,256	4,971	1
10	17	27	23	26	49	16,053	14,847	30,900	2
2	3	5	4	10	14	10,243	8,585	18,828	3
25	11	36	111	97	208	18,170	16,094	34,264	4
4	7	11	36	46	82	16,500	14,844	31,344	5
10	7	17	5	10	15	14,881	13,407	28,288	6
3	4	7	61	42	103	9,329	8,087	17,416	7
12	15	27	12	12	24	14,080	12,320	26,400	8
1	...	1	10	11	21	8,933	6,949	15,882	9
4	2	6	20	16	36	9,860	8,176	18,036	10
60	75	135	49	81	130	24,578	22,426	47,004	11
...	1	1	111	109	220	13,802	12,395	26,197	12
22	27	49	13	6	19	16,153	14,178	30,331	13
95	94	189	54	50	104	21,454	20,735	42,189	14
8	11	19	15	14	29	16,553	14,019	30,572	15
8	13	21	86	86	172	10,095	8,511	18,606	16
6	3	9	17	18	35	13,820	11,762	25,582	17
4	3	7	5	9	14	10,283	8,692	18,975	18
5	10	15	9	8	17	15,869	13,429	29,298	19
...	...	...	4	2	6	8,980	8,093	17,073	20
43	21	64	1	4	5	17,639	15,386	33,025	21
12	18	30	84	83	167	14,666	13,970	28,636	22
1	1	2	...	...	...	7,272	6,277	13,549	23
...	...	...	...	1	1	11,161	9,934	21,095	24
2	1	3	...	...	...	10,753	9,146	19,899	25
29	14	43	7	6	13	14,219	13,414	27,633	26
2	7	9	...	...	...	9,840	9,064	18,904	27
1	...	1	...	...	...	11,967	10,251	22,218	28
4	5	9	1	2	3	9,853	9,002	18,855	29
...	2	2	1	1	2	8,048	6,819	14,867	30
9	3	12	22	17	39	43,222	37,746	80,968	31
...	...	...	...	5	5	22,507	20,254	42,761	32
...	...	...	...	2	2	18,620	16,565	35,185	33
22	12	34	25	20	45	5,150	4,526	9,676	34
30	22	52	6	1	7	6,723	6,586	13,309	35
3	1	4	1	...	1	6,618	6,498	13,116	36
45	32	77	15	8	23	14,842	13,376	28,218	37
...	1	1	3	1	4	10,323	8,682	19,005	38
1	1	2	2	...	2	11,153	9,538	20,691	39
5	1	6	5	9	14	15,544	13,499	29,043	40
3	3	6	13	10	23	15,817	13,164	28,981	41
6	8	14	20	21	41	14,214	11,904	26,118	42
1	3	4	5	5	10	13,495	11,600	25,095	43
2	5	7	7	6	13	16,270	13,909	30,179	44
1	1	2	15	14	29	15,608	13,578	29,186	45
2	...	2	1	...	1	13,382	11,376	24,758	46
1	...	1	...	...	...	10,250	8,657	18,907	47
...	...	...	7	7	14	15,173	12,914	28,087	48
548	511	1,059	897	890	1,787	656,680	577,440	1,234,120	

Paragraph 24 of Chapter II.]

ANNUAL

Deaths registered according to classes and sexes

1	2								
Number.	District.			Muhammadans.			Hindus.		
				Male.	Female.	Total.	Male.	Female.	Total
	MEERUT DIVISION.								
1	Dehra Dun	...	...	23·68	39·69	29·43	21·21	25·43	22·90
2	Saharanpur	...	...	33·45	38·43	35·72	30·98	34·53	32·57
3	Muzaffarnagar	...	...	23·54	24·45	23·96	24·89	24·84	24·87
4	Meerut	...	...	21·76	23·62	22·62	24·05	24·69	24·34
5	Bulandshahr	...	...	30·53	31·65	31·51	30·34	30·19	30·27
AGRA DIVISION.									
6	Aligarh	...	...	25·45	29·31	27·22	26·90	28·39	27·58
7	Muttra	...	...	22·65	27·73	24·94	28·22	29·65	28·86
8	Agra	...	...	26·73	31·45	28·86	28·64	30·12	29·31
9	Mainpuri	...	...	17·79	17·54	17·66	22·45	21·36	21·97
10	Etah	...	...	20·43	22·56	21·41	22·79	22·03	22·44
ROHILKHAND DIVISION.									
11	Bareilly	...	...	39·96	43·14	41·46	48·12	50·64	49·28
12	Bijnor	...	...	35·34	37·11	36·19	36·43	35·14	36·04
13	Budaun	...	...	30·51	33·89	32·10	31·26	31·89	31·55
14	Moradabad	...	...	34·26	39·05	36·53	34·06	36·86	35·35
15	Shahjahanpur	...	...	33·60	36·23	34·86	37·30	36·51	36·94
16	Pilibhit	...	...	46·15	43·40	44·82	43·60	41·58	42·66
ALLAHABAD DIVISION.									
17	Farrukhabad	...	...	29·05	28·39	28·74	29·81	30·94	30·32
18	Etawah	...	...	30·46	35·79	32·95	25·39	26·05	25·69
19	Cawnpore	...	...	25·73	31·98	28·46	25·02	25·83	25·38
20	Fatehpur	...	...	29·10	26·93	28·03	26·05	26·02	26·03
21	Allahabad	...	...	23·34	24·60	23·95	24·72	22·36	23·56
JHANSI DIVISION									
22	Jhansi	...	...	37·50	47·76	42·10	48·12	48·84	48·47
23	Jalaun	...	...	30·07	27·01	28·59	34·52	33·22	33·90
24	Hamirpur	...	...	41·10	36·86	38·98	47·60	44·18	45·93
25	Banda	...	...	33·70	31·81	32·76	35·91	31·91	33·96
BENARES DIVISION.									
26	Benares	...	...	34·84	41·64	38·01	28·54	27·46	28·01
27	Mirzapur	...	...	23·08	24·95	24·00	27·56	25·08	26·32
28	Jaunpur	...	...	21·80	21·56	21·68	20·75	17·28	19·00
29	Ghazipur	...	...	28·44	25·97	27·15	24·33	23·27	23·82
30	Ballia	...	...	21·97	19·76	20·84	18·70	16·67	17·72
GORAKHPUR DIVISION.									
31	Gorakhpur	...	...	26·53	24·72	25·64	26·01	23·34	24·70
32	Basti	...	...	22·77	21·90	22·34	22·88	21·46	22·19
33	Azamgarh	...	...	25·19	26·72	25·95	23·85	21·38	22·62
KUMAUN DIVISION.									
34	Naini Tal	...	...	46·81	63·26	53·53	28·64	33·76	37·97
35	Almora	...	...	16·85	39·73	25·80	25·35	24·78	25·07
36	Garhwal	...	...	9·28	27·34	14·62	28·70	25·79	27·18
LUCKNOW DIVISION.									
37	Lucknow	...	...	37·27	42·01	39·47	38·47	40·21	39·27
38	Unao	...	...	22·58	26·45	24·42	23·95	22·17	23·11
39	Rae Bareli	...	...	25·52	25·63	25·57	23·30	20·17	21·76
40	Sitapur	...	...	27·03	27·41	27·21	26·69	26·44	26·57
41	Hardoi	...	...	26·75	26·04	26·41	27·08	26·54	26·83
42	Kheri	...	...	27·10	27·71	27·39	29·66	27·78	28·78
FYZABAD DIVISION.									
43	Fyzabad	...	...	23·07	22·33	22·70	22·95	19·57	21·27
44	Gonda	...	...	20·94	19·46	20·21	21·74	19·27	20·53
45	Bahraich	...	...	25·17	24·05	24·63	28·92	27·23	28·11
46	Sultanpur	...	...	27·58	23·82	25·62	26·99	22·14	24·54
47	Partabgarh	...	...	20·85	18·33	19·56	25·03	19·96	22·43
48	Bara Banki	...	...	25·97	25·78	25·87	28·75	26·69	27·58
Total for the Province				28·30	29·68	28·96	27·78	26·50	27·17

FORM No. V.

in the districts of the United Provinces during the year 1930—(concluded).

7									8
Ratio of deaths per 1,000 of population.									
Christians.			Other classes.			Total.			Number.
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	
15.00	17.21	16.05	5.31	13.13	7.97	21.18	26.83	23.42	1
3.04	7.78	4.93	2.56	3.96	3.15	31.12	35.22	32.96	2
.58	1.01	.78	.31	.97	.60	23.58	23.85	23.70	3
1.47	.78	1.16	4.34	4.69	4.50	22.43	23.35	22.86	4
.64	1.13	.89	2.49	3.68	3.04	29.33	29.45	29.39	5
1.30	.94	1.12	.45	1.07	.73	25.86	27.56	26.64	6
.90	1.44	1.15	19.41	18.23	18.91	27.34	29.09	28.13	7
2.86	5.72	3.96	1.28	1.65	1.44	27.70	29.62	28.57	8
.64	...	.34	1.14	1.65	1.36	21.68	20.67	21.23	9
.63	.34	.50	3.09	2.88	2.99	21.95	21.48	21.74	10
8.35	11.50	9.85	8.65	18.51	12.95	45.11	47.82	46.36	11
...	1.19	.60	12.47	14.94	13.59	35.42	35.36	35.39	12
3.17	4.35	3.73	4.09	2.23	3.27	30.60	31.68	31.10	13
10.90	11.75	11.31	8.82	9.34	9.06	33.57	37.05	35.20	14
4.52	6.52	5.50	12.64	17.56	14.62	36.55	36.29	36.43	15
5.61	10.23	7.79	123.21	146.26	133.75	44.06	42.03	43.11	16
3.84	2.06	2.98	5.08	6.36	5.67	29.46	30.34	29.86	17
5.77	5.46	5.63	1.38	3.03	2.12	25.43	26.40	25.87	18
1.40	4.22	2.53	4.71	5.62	5.10	24.90	26.26	25.51	19
...	...	...	3.27	1.92	2.65	26.29	26.03	26.17	20
1.48	7.56	9.30	.96	6.32	2.99	24.42	22.55	23.51	21
4.33	13.02	7.22	13.88	15.91	14.82	46.41	48.02	47.21	22
7.24	8.84	7.97	...	...	...	34.08	32.68	33.42	23
...	...	...	...	2.40	1.15	47.07	43.52	45.33	24
20.83	14.08	17.96	...	...	...	35.73	31.85	33.84	25
31.08	15.15	23.15	15.00	18.24	16.35	29.29	28.85	29.02	26
5.42	16.39	11.31	...	...	...	27.21	25.00	26.10	27
14.08	...	8.26	...	...	...	20.81	17.65	19.23	28
20.72	27.62	24.06	8.00	16.39	12.14	24.68	23.54	24.12	29
...	4.33	2.11	3.56	4.37	3.92	18.87	16.86	17.89	30
19.23	7.79	14.07	16.86	16.28	16.60	26.06	23.47	24.78	31
...	...	...	...	39.06	15.87	22.85	21.53	22.21	32
...	...	...	...	49.63	24.78	24.00	22.02	23.03	33
16.38	10.90	13.91	11.36	11.27	11.32	32.02	38.99	34.95	34
44.71	25.11	33.61	32.43	8.40	23.26	25.34	24.84	25.09	35
6.11	2.07	4.11	8.62	...	6.32	28.41	25.75	27.03	36
9.34	11.79	10.23	16.11	14.14	14.76	37.81	40.31	38.96	37
..	13.33	5.71	6.26	2.49	4.54	23.81	22.52	23.20	38
10.42	13.51	11.76	12.66	...	6.97	23.49	20.66	22.10	39
16.61	3.49	10.22	12.53	28.94	19.72	26.72	26.58	26.66	40
6.69	5.55	6.07	8.88	8.77	8.83	26.98	26.42	26.72	41
17.75	31.01	23.49	46.84	53.30	49.94	29.30	27.79	28.59	42
.87	10.91	2.80	18.80	23.70	20.96	22.91	19.87	21.40	43
7.04	24.75	14.40	61.94	74.07	67.01	21.61	19.31	20.49	44
6.71	9.90	8.00	23.08	24.18	23.59	28.14	26.58	27.39	45
58.82	...	15.38	9.80	...	5.88	27.06	22.33	24.66	46
111.11	...	52.63	...	...	...	24.56	19.77	22.11	47
...	...	...	12.30	14.52	13.32	28.26	26.19	27.27	48
5.01	5.57	5.27	5.61	6.92	6.19	27.60	26.75	27.20	

Paragraphs 25 of Chapter II and 5, 9, 13, 18, 25, 29, 31 and 33 of Chapter III.]

ANNUAL

Deaths from **different causes** and births registered in the **towns**
such towns) of the United

1	2	3	4				5	6	7
Number.	Districts and towns.	Popula- tion according to census of 1921.	Births.			Birth-rate per 1,000 of popula- tion.	Cholera.	Small-pox.	Plague.
			Male.	Female.	Total.				
A.—Rural Districts.									
MEERUT DIVISION.									
1	Dehra Dun ...	170,446	2,472	2,328	4,800	28·16	19	4	...
2	Saharanpur ...	802,435	20,300	18,008	38,308	47·74	9	105	1,078
3	Muzaffarnagar ...	743,280	17,411	14,790	32,201	43·32	66	162	38
4	Meerut ...	1,385,632	29,365	25,153	54,518	39·34	53	319	...
5	Bulandshahr ...	994,160	23,772	21,083	44,855	45·12	81	457	...
AGRA DIVISION.									
6	Aligarh ...	943,001	20,553	18,389	38,942	41·29	53	67	...
7	Muttra ...	555,782	10,025	8,902	18,927	34·05	14	175	...
8	Agra ...	740,222	16,394	14,053	30,447	41·13	2	69	...
9	Mainpuri ...	723,301	13,114	10,802	23,916	33·06	71	133	...
10	Etah ...	797,813	16,160	14,063	30,223	37·88	77	141	...
ROHILKHAND DIVISION.									
11	Bareilly ...	881,568	20,978	19,054	40,032	45·41	2,745	501	262
12	Bijnor ...	644,757	16,374	14,304	30,678	47·58	315	549	461
13	Budaun ...	909,071	21,390	19,434	40,824	44·91	184	1,032	161
14	Moradabad ...	1,008,785	25,923	23,487	49,410	48·98	397	706	958
15	Shahjahanpur ...	753,749	19,440	17,764	37,204	49·36	1,259	109	16
16	Pilibhit ...	399,257	9,392	8,368	17,760	44·48	438	110	17
ALLAHABAD DIVISION.									
17	Farrukhabad ...	790,044	18,568	16,325	34,893	44·16	130	244	...
18	Etawah ...	691,974	13,546	11,953	25,499	36·85	79	219	...
19	Cawnpore ...	953,579	15,024	12,604	27,628	28·97	899	94	...
20	Fatehpur ...	637,444	10,953	9,479	20,432	32·05	620	113	1
21	Allahabad ...	1,258,840	18,565	16,525	35,090	27·87	2,447	145	...
JHANSI DIVISION.									
22	Jhansi ...	519,627	10,735	9,727	20,462	39·38	824	149	...
23	Jalaun ...	380,899	7,579	6,826	14,405	37·82	2	269	...
24	Hamirpur ...	453,675	8,816	7,855	16,671	36·75	970	45	...
25	Banda ...	568,007	9,453	7,811	17,264	30·39	1,098	113	...
BENARES DIVISION.									
26	Benares ...	756,658	14,729	12,982	27,711	36·62	487	475	30
27	Mirzapur ...	669,189	13,023	11,933	24,956	37·29	1,014	43	...
28	Jaunpur ...	1,122,536	16,930	15,005	31,935	28·45	660	257	49
29	Ghazipur ...	746,626	13,948	12,589	26,537	35·54	622	901	1,587
30	Ballia ...	812,794	13,940	11,791	25,731	31·66	150	131	580
GORAKHPUR DIVISION.									
31	Gorakhpur ...	3,203,835	59,103	54,294	113,397	35·39	13,490	253	1,953
32	Basti ...	1,907,537	32,561	28,779	61,340	32·16	7,532	99	545
33	Azamgarh ...	1,482,726	27,195	24,318	51,513	34·74	664	447	1,520
KUMAUN DIVISION.									
34	Naini Tal ...	255,907	4,009	3,673	7,682	30·02	284	59	2
35	Almora ...	530,338	12,234	12,004	24,238	45·70	5	80	...
36	Garhwal ...	485,186	10,807	10,772	21,579	44·47	113	20	4
LUCKNOW DIVISION.									
37	Lucknow ...	507,177	9,159	8,416	17,575	34·65	217	12	...
38	Unao ...	807,981	12,611	11,158	23,769	29·42	109	32	...
39	Rae Bareli ...	920,220	12,802	10,937	23,739	25·80	1,523	17	...
40	Sitapur ...	1,048,342	20,932	18,304	39,236	37·43	2,405	10	21
41	Hardoi ...	1,037,228	21,266	18,854	40,120	38·68	1,313	116	...
42	Kheri ...	901,079	18,055	15,742	33,797	37·51	2,183	16	505
FYZABAD DIVISION.									
43	Fyzabad ...	1,102,975	18,273	16,281	34,554	31·33	937	311	498
44	Gonda ...	1,443,739	21,914	18,799	40,713	28·20	6,168	35	...
45	Bahraich ...	1,027,082	21,158	18,408	39,566	38·52	2,012	23	...
46	Sultanpur ...	1,003,912	15,700	13,083	28,788	28·67	1,343	82	15
47	Partabgarh ...	855,130	12,754	11,017	23,771	27·80	1,372	87	...
48	Bara Banki ...	1,007,258	18,432	16,488	34,920	34·67	1,687	34	118
Total of rural districts		42,342,803	817,837	724,719	1,542,556	36·43	59,142	9,570	10,419

FORM NO. VI.

(having a population of 10,000 and upwards) and **districts** (exclusive of provinces, during the year 1930.

8	9	10	11						12	13	14
Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.						All other causes.	Total deaths from all causes.	Number.
			Suicide.		Wounds or accidents.	Snake-bite or killed by wild beasts.	Rabies.	Total.			
			Male.	Female.							
2,880	99	196	5	2	42	4		53	332	3,583	1
22,873	92	136	16	17	167	15	4	219	315	24,827	2
16,552	101	89	8	18	144	5	4	179	219	17,406	3
30,201	73	275	6	41	196	14	2	259	315	31,495	4
27,005	204	188	11	30	225	11	8	285	361	28,581	5
20,853	104	155	12	42	151	6	7	218	2,088	23,538	6
12,398	159	139	12	19	165	9	4	209	724	13,818	7
15,133	18	145	19	49	226	23	3	320	2,059	17,746	8
14,418	18	17	10	48	188	51	3	300	642	15,599	9
14,645	159	217	15	48	213	29	9	314	1,317	16,870	10
36,320	146	140	8	22	219	187	23	459	1,674	42,247	11
18,224	72	87	2	11	130	161	10	314	2,376	22,398	12
25,383	54	71	23	36	192	259	4	514	319	27,718	13
30,081	369	369	10	14	186	119	4	333	818	34,031	14
22,739	46	78	18	26	149	86	2	281	2,889	27,417	15
14,464	81	57	10	11	107	70	14	212	1,130	16,509	16
18,679	45	121	15	33	176	45	7	276	3,096	22,591	17
13,346	17	89	9	36	164	41	4	254	2,679	16,683	18
16,749	38	149	14	14	243	78	10	359	2,392	20,680	19
11,323	78	142	7	30	223	63	4	327	3,732	16,336	20
19,663	94	174	11	18	366	135	2	532	4,219	27,274	21
19,212	141	153	16	56	174	65	4	315	2,867	23,661	22
9,717	48	61	6	25	55	46	6	138	2,295	12,530	23
15,132	77	3,934	15	52	144	57	4	272	259	20,689	24
14,927	36	32	7	24	133	101	2	267	2,833	19,306	25
11,687	23	38	12	13	294	83	7	409	3,594	16,743	26
12,677	33	42	9	17	193	96	3	318	3,344	17,471	27
15,432	32	48	8	38	379	161	6	592	4,233	21,303	28
12,244	35	68	2	21	273	93	...	389	2,254	18,100	29
10,286	351	166	2	9	295	143	8	457	2,495	14,616	30
53,740	149	155	8	39	806	430	35	1,318	7,044	78,102	31
26,708	79	111	5	7	356	152	5	525	6,802	42,401	32
25,435	114	164	9	62	598	196	10	875	4,838	34,057	33
8,013	136	131	9	6	34	30	3	82	225	8,932	34
10,955	859	623	18	26	159	21	8	232	555	13,309	35
10,182	1,918	432	10	20	132	12	1	175	272	13,116	36
15,382	71	154	11	13	160	15	3	202	1,949	17,987	37
16,205	74	176	6	8	254	77	68	413	1,680	18,689	38
16,290	83	121	13	34	350	72	28	497	1,407	19,938	39
21,779	35	79	20	19	294	154	4	491	2,497	27,317	40
22,869	86	80	31	45	274	123	23	496	2,469	27,429	41
20,484	63	53	19	16	242	144	88	509	1,903	25,716	42
17,212	66	51	8	13	320	97	5	443	3,419	22,937	43
19,471	44	157	6	12	307	235	7	567	2,481	28,923	44
20,564	173	39	10	6	215	131	13	375	4,929	28,115	45
19,261	92	104	13	19	325	92	8	457	3,404	24,758	46
15,199	22	86	5	21	322	66	3	417	1,724	18,907	47
22,084	84	122	18	10	383	182	10	603	2,656	27,388	48
887,076	6,991	10,414	537	1,196	11,343	4,485	490	18,051	108,124	1,109,787	

Paragraphs 25 of Chapter II and 5, 9, 13, 18, 25, 29, 31 and 33 of Chapter III.]

ANNUAL FORM NO. VI.

Deaths from **different causes** and births registered in the **towns**
(having a population of 10,000 and upwards) and **districts** (exclusive
of such towns) of the United Provinces, during the year 1930 --(contd.).

1	2	3	15									
Number.	Districts and towns.	Popula- tion according to census of 1921.	Ratio of deaths per 1,000 of population.									
			Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory dis- eases.	Injuries.	All other causes.	From all causes.	
											For the year.	Mean ratio of previous five years.
A.—Rural districts— (concl'd.).												
MEERUT DIVISION.												
1	Dehra Dun ...	170,446	·11	·02	...	16·90	·58	1·15	·31	1·95	21·02	21·44
2	Saharanpur ...	802,435	·01	·13	1·34	28·50	·11	17	·27	·39	30·94	31·29
3	Muzaffarnagar ...	743,280	·09	·22	·05	22·27	·13	·12	·24	·29	23·42	27·80
4	Meerut ...	1,385,632	·04	·23	...	21·79	·05	·20	19	·23	22·73	29·43
5	Bulandshahr ...	994,160	·08	·46	...	27·16	·20	·19	·29	·36	28·75	31·00
AGRA DIVISION.												
6	Aligarh ...	943,001	·06	·07	...	22·11	·11	·16	·23	2·21	24·96	25·82
7	Muttra ..	555,782	·02	·31	...	22·31	·29	·25	·38	1·30	24·86	20·52
8	Agra ...	740,222	...	·09	...	20·44	·02	·19	·43	2·78	23·97	22·56
9	Mainpuri ...	723,301	·10	·18	...	19·93	·02	·02	·41	·89	21·57	22·36
10	Etah ...	797,813	·10	·18	...	18·35	·20	·27	·39	1·65	21·14	22·01
ROHILKHAND DIVISION.												
11	Bareilly ...	881,568	3·11	·57	·30	41·20	16	·16	·52	1·90	47·92	30·91
12	Bijnor ..	644,757	·49	·85	·71	28·26	·11	·13	·49	3·68	34·74	34·28
13	Budaun ...	909,071	·20	1·13	·18	27·92	·06	·08	·56	·35	30·49	26·30
14	Moradabad ...	1,008,785	·39	·70	·95	29·82	·36	·36	·33	·81	33·73	31·78
15	Shahjahanpur ...	753,749	1·67	·14	·02	30·17	06	·10	·37	3·83	36·37	30·89
16	Pilibhit ...	399,257	1·10	·27	·04	36·23	·20	·14	·53	2·83	41·35	34·55
ALLAHABAD DIVISION.												
17	Farrukhabad ..	790,044	·16	·31	..	23·64	·06	15	35	3·92	28·59	27·14
18	Etawah .	691,974	·11	·32	...	19·29	·02	·13	·37	3·87	24·11	20·90
19	Cawnpore ...	953,579	94	·10	...	17·56	·04	·16	·38	2·51	21·69	16·28
20	Fatehpur ...	637,444	·97	·18	...	17·76	·12	·22	·51	5·85	25·63	15·63
21	Allahabad ...	1,258,840	1·94	·11	...	15·62	·07	·14	·42	3·35	21·66	17·82
JHANSI DIVISION.												
22	Jhansi ...	519,627	1·58	·29	...	36·97	·27	·29	·61	5·52	45·53	28·53
23	Jalaun ...	380,899	...	·71	...	25·51	·13	·16	·36	6·02	32·89	20·63
24	Hamirpur ...	453,675	2·14	·10	..	33·35	·17	8·67	·60	·57	45·60	25·99
25	Banda ...	568,007	1·93	·20	..	26·28	·06	·06	·47	4·99	33·99	19·07
BENARES DIVISION.												
26	Benares ...	756,658	·64	·63	·04	15·44	·03	·05	·54	4·75	22·13	21·08
27	Mirzapur ...	669,189	1·51	·06	...	18·94	·05	·06	·47	5·00	26·11	23·32
28	Jaunpur ...	1,122,536	·59	·23	·04	13·75	·03	·04	·53	3·77	18·98	19·30
29	Ghazipur ...	746,626	·83	1·21	2·12	16·40	·05	·09	·52	3·02	24·24	25·19
30	Ballia ...	812,794	·18	·16	·71	12·65	·43	·20	·56	3·07	17·98	20·93
GORAKHPUR DIVISION.												
31	Gorakhpur ...	3,203,835	4·21	·08	·61	16·77	·05	·05	·41	2·20	24·38	17·91
32	Basti ...	1,907,537	3·95	·05	·28	14·00	·04	·06	·27	3·56	22·23	21·82
33	Azamgarh ...	1,482,726	·45	·30	1·02	17·15	·08	·11	·59	3·26	22·97	24·59
KUMAUN DIVISION.												
34	Naini Tal ...	255,907	1·11	·23	·01	31·31	·53	·51	·32	·88	34·90	31·89
35	Almora ...	530,338	·01	·15	...	20·66	1·62	1·17	·44	1·04	25·09	23·74
36	Garhwal ...	485,186	·23	·04	·01	20·98	3·95	·89	·36	·56	27·03	28·79
LUCKNOW DIVISION.												
37	Lucknow ...	507,177	·43	·02	...	30·33	·14	·30	·40	3·84	35·46	22·29
38	Unao ...	807,981	·13	·04	..	20·06	·09	·22	·51	2·08	23·13	19·20
39	Rae Bareli ...	920,220	1·65	·02	...	17·70	·09	·13	·54	1·53	21·67	16·43
40	Sitapur ...	1,048,342	2·29	·01	·02	20·77	·03	·07	·47	2·38	26·06	21·51
41	Hardoi ...	1,037,228	1·26	·11	..	22·05	·08	·08	·48	2·38	26·44	20·22
42	Kheri ...	901,079	2·42	·02	·56	22·73	·07	·06	·56	2·11	28·54	25·66
FYZABAD DIVISION.												
43	Fyzabad ...	1,102,975	·85	·28	·45	15·60	·06	·05	·40	3·10	20·79	23·26
44	Gonda ...	1,443,739	4·27	·02	...	13·49	·03	·11	·39	1·72	20·03	15·96
45	Bahraich ...	1,027,082	1·96	·02	...	20·02	·17	·04	·36	4·80	27·37	21·56
46	Sultanpur ...	1,003,912	1·34	·08	·01	19·18	·09	·10	·45	3·39	24·66	24·06
47	Partabgarh ...	855,130	1·60	·10	...	17·77	·02	·10	·49	2·02	22·11	19·06
48	Bara Banki ...	1,007,258	1·67	·03	·12	21·92	·08	·12	·60	2·64	27·19	21·25
Total of rural districts		42,342,803	1·40	·23	·25	20·95	·16	·24	·43	2·55	26·21	23·13

Paragraphs 4, 8, 12, 17, 24, 28, 30 and 32 of Chapter III.]

ANNUAL FORM No. VI.

*Deaths from **different causes** and Births registered in the **towns** (having a population of 10,000 and upwards) and **districts** (exclusive of such towns) of the United Provinces during the year 1930—(contd.).*

1	2	3	4	5			6	7	8	
Number.	Districts.	Towns.	Popula- tion according to census of 1921.	Births.			Birth-rate per 1,000 of population.	Cholera.	Small-pox.	Plague.
				Male.	Female.	Total.				
		<i>B.—Towns.</i>								
1	Dehra Dun	Dehra ...	33,500	785	689	1,474	44.00	17	17	...
2		Mussooree ...	(a) 8,297	85	85	170	13.13	1	3	...
3	Saharanpur	Hardwar Union ...	30,795	668	584	1,252	40.65	39	10	...
4		Saharanpur ...	62,261	1,882	1,863	3,745	60.15	5	16	20
5		Deoband ...	17,891	557	534	1,091	60.98	2	...	...
6		Gangoh ...	11,843	333	292	625	52.77	1	9	...
7		Roorkee ...	12,246	282	290	572	46.71	5	11	20
8	Muzaffar- nagar.	Kairana ...	16,683	428	393	821	49.21	...	11	...
9		Kandhla ...	10,365	214	178	392	37.82	...	9	...
10		Muzaffarnagar ...	23,937	682	650	1,332	55.65	3	7	...
11	Meerut	Meerut ...	77,711	1,533	1,281	2,814	36.21	7	56	...
12		Hapur ...	20,388	581	557	1,138	55.82	7	4	...
13		Ghaziabad ...	15,343	338	325	663	43.21	...	...	...
14	Buland- shahr.	Khurja ...	25,719	727	728	1,455	56.57	1	...	...
15		Sikandrabad ...	16,857	479	449	928	55.05	...	...	...
16		Bulandshahr ...	19,504	506	460	966	49.53	3	...	...
17		Jahangirabad ...	10,279	275	277	552	53.70	1	1	...
18	Aligarh	Aligarh or Koil ..	66,963	1,628	1,622	3,250	48.53	1	2	1
19		Hathras ...	38,763	1,052	1,058	2,110	54.43	81	8	...
20		Atrauli ...	13,018	400	381	781	59.99	...	5	...
21	Muttra	Muttra ...	48,724	1,511	1,380	2,891	59.33	3	26	...
22		Brindaban ...	14,632	322	270	592	40.46	12	17	...
23	Agra	Agra ...	163,750	6,031	5,799	11,830	72.24	4	7	...
24		Firozabad ...	20,183	508	434	942	46.67	1	13	...
25	Mainpuri	Mainpuri ...	14,352	114	83	197	13.73	1	...	...
26		Shikohabad ...	10,374	219	191	410	39.52	4	...	...
27	Etah	Kasganj ...	20,988	558	481	1,039	49.50	5	...	...
28		Soron ...	10,959	334	341	675	61.59	9	1	...
29	Bareilly	Bareilly ...	119,175	3,267	2,635	5,902	49.52	44	21	126
30		Aonla ...	13,132	376	327	703	53.53	19	22	...
31	Bijnor	Nagina ..	18,736	608	561	1,169	62.39	90	7	...
32		Najibabad ..	18,804	561	502	1,063	56.53	31	...	...
33		Bijnor ...	18,095	468	547	1,015	56.09	...	30	...
34		Sherkot ..	13,889	254	223	477	34.34	...	...	...
35		Chandpur ...	11,032	326	372	698	63.27	8	13	3
36		Kiratpur ...	14,869	293	261	554	37.26	44	104	...
37	Budaun	Ujhani ...	11,186	298	296	594	53.10	...	...	...
38		Budaun ...	39,118	1,078	1,026	2,104	53.78	4	29	...
39		Sahaswan ...	15,972	488	475	963	60.29	3	5	...
40	Moradabad	Moradabad ...	82,671	2,648	2,548	5,196	62.85	1	1	..
41		Sambhal ...	41,585	1,293	1,190	2,488	59.83	6	64	...
42		Amroha ...	40,448	1,282	1,232	2,514	62.15	1	62	2
43		Chandausi ...	25,164	662	669	1,331	52.89	5	8	...
44	Shahjahan- pur.	Tilhar ...	16,584	531	504	1,035	62.41	97	10	1
45		Shahjahanpur ...	68,782	1,774	1,668	3,442	50.04	44	14	...

(a) Rates calculated on average population 12,943.

Paragraphs 4, 8, 12, 17, 24, 28, 30 and 32 of Chapter III.]

ANNUAL

Deaths from **different causes** and births registered in the **towns**
(such towns) of the United Provinces

1	2	3	4	9	10	11	12			
Number.	Districts.	Towns.	Popula- tion according to census of 1921.	Fevers.	Dysentery and diarrhoea.	Res piratory diseases	Suicide.		Wounds or acci- dents.	Injuries or Snake-bite killed by wild beasts.
		<i>B.—Towns— (contd.).</i>					Male.	Female.		
1	Fehra Dun	Dehra	33,500	308	114	397	...	...	24	1
2		Mussooree	(a)8,297	27	7	35	...	...	...	...
3	Saharanpur	Hardwar Union	30,795	793	110	135	...	...	20	...
4		Saharanpur	62,261	1,764	144	327	1	...	42	...
5		Deoband	17,891	466	26	26	...	...	17	...
6		Gangoh	11,843	268	14	...	...	...	2	...
7		Roorkee	12,246	288	41	46	...	...	7	...
8	Muzaffar- nagar.	Kairana	16,683	406	13	3	1	1	1	...
9		Kandhla	10,365	209	...	...	...	...	...	...
10		Muzaffarnagar	23,937	535	69	31	...	...	26	...
11	Meerut	Meerut	77,711	847	159	470	...	...	20	...
12		Hapur	20,388	326	90	101	...	...	36	...
13		Ghaziabad	15,343	300	2	28	...	...	3	...
14	Buland- shahr.	Khurja	25,719	779	83	127	1	...	31	...
15		Sikandrabad	16,857	356	48	112	...	...	11	...
16		Bulandshahr	19,504	473	27	136	...	...	4	...
17		Jahangirabad	10,279	237	3	35	1	...	2	1
18	Aligarh	Aligarh or Koil	66,963	781	427	551	...	...	57	...
19		Hathras	38,763	699	263	273	1	1	45	...
20		Atrauli	13,018	238	105	8	...	...	4	...
21	Muttra	Muttra	48,724	1,335	209	509	...	1	53	...
22		Brindaban	14,632	573	78	157	1	...	6	...
23	Agra	Agra	163,750	2,447	601	2,696	4	2	303	1
24		Firozabad	20,183	360	38	36	1	...	18	1
25	Mainpuri	Mainpuri	14,352	123	...	3	...	...	...	...
26		Shikohabad	10,374	130	2	12	...	2	3	1
27	Etah	Kasganj	20,988	450	28	19	...	...	90	...
28		Soron	10,959	411	10	17	...	...	3	1
29	Bareilly	Bareilly	119,175	1,641	104	1,104	...	...	53	...
30		Aonla	13,132	395	24	16	...	...	4	...
31	Bijnor	Nagina	18,736	383	104	100	2	...	16	3
32		Najibabad	18,804	465	18	19	...	...	6	1
33		Bijnor	18,695	294	69	22	2	...	18	...
34		Sherkot	13,889	381	3	2	...	...	1	2
35		Chandpur	11,032	297	48	43	...	...	14	...
36		Kiratpur	14,869	142	32	37	...	...	11	...
37	Budaun	Ujhani	11,186	355	8	8	...	...	6	...
38		Budaun	39,113	822	74	193	...	...	30	2
39		Sahaswan	15,972	468	41	32	...	...	20	2
40	Moradabad	Moradabad	82,671	1,748	322	924	4	3	54	3
41		Sambhal	41,585	843	297	415	...	...	11	2
42		Amroha	40,448	617	179	294	...	...	24	...
43		Chandausi	25,164	373	127	190	...	...	5	1
44	Shahjahan- pur.	Tilhar	16,584	478	24	126	...	...	4	1
45		Shahjahanpur	68,782	1,047	177	401	...	...	25	...

(a) Rates calculated on average population 12,943.

FORM No. VI.

(having a population of 10,000 and upwards) and **districts** (exclusive of during the year 1930 — (continued).

Rabies.	Total.	13	14	15										16	
		All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population.										From all causes.	
				Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean ratio of previous five years.	Number.	
...	25	398	1,276	·51	·51	...	9·19	3·40	11·85	·75	11·88	38·09	29·71	1	
...		39	112	·08	·23	...	2·09	·54	2·70	...	3·01	8·65	9·04	2	
...	20	299	1,406	1·27	·32	...	25·75	3·57	4·38	·65	9·71	45·66	42·87	3	
1	44	766	3,086	·08	·26	·32	28·33	2·31	5·25	·71	12·30	49·56	51·36	4	
1	18	229	767	·11	...	...	26·05	1·45	1·45	1·01	12·80	42·87	37·55	5	
...	2	26	320	·08	·76	...	22·63	1·18	...	·17	2·19	27·02	42·54	6	
...	7	76	494	·41	·90	1·63	23·52	3·35	3·76	·57	6·20	40·34	38·12	7	
1	4	20	457	...	·66	...	24·33	·78	·18	·24	1·20	27·39	38·03	8	
...	...	2	220	...	·87	...	20·16	...	...	...	·19	21·22	35·80	9	
...	26	74	745	·12	·29	...	22·35	2·88	1·29	1·09	3·09	31·12	30·01	10	
...	20	206	1,765	·09	·72	...	10·90	2·04	6·05	·26	2·65	22·71	25·21	11	
1	37	103	668	·34	·20	...	15·99	4·41	4·95	1·81	5·05	32·76	43·36	12	
...	3	3	336	...	...	...	19·55	·13	1·82	·19	·19	21·90	29·64	13	
...	32	100	1,122	·04	...	...	30·29	3·22	4·94	1·24	3·89	43·62	51·94	14	
...	11	155	682	...	...	...	21·12	2·85	6·64	·65	9·19	40·46	45·75	15	
...	4	8	651	·15	...	...	24·25	1·38	6·97	20	·41	33·33	38·84	16	
...	4	27	308	·10	·10	...	23·06	·29	3·40	·39	2·62	29·96	27·38	17	
...	57	389	2,209	·01	·03	·01	11·66	6·38	8·23	·85	5·81	32·99	42·87	18	
1	48	690	2,062	2·09	·21	...	18·03	6·78	7·04	1·24	17·80	53·19	48·82	19	
...	4	119	479	...	·38	...	18·28	8·06	·61	·31	9·14	36·79	41·10	20	
...	54	513	2,649	·06	·53	...	27·40	4·29	10·45	1·11	10·53	54·37	45·31	21	
...	7	105	949	·82	1·16	...	39·16	5·33	10·73	·48	7·18	64·86	56·30	22	
...	310	2,009	8,074	·02	·04	...	14·94	3·67	16·46	1·89	12·27	49·31	45·22	23	
2	22	110	580	·05	·64	...	17·84	1·88	1·78	1·09	5·45	28·74	33·15	24	
...	...	...	127	·07	...	...	8·57	...	·21	...	...	8·85	12·01	25	
1	7	1	156	·38	...	...	12·53	·19	1·16	·67	·10	15·04	18·78	26	
...	90	21	613	·24	...	...	21·44	1·33	·90	4·29	1·00	29·21	26·91	27	
...	4	101	553	·82	·09	...	37·50	·91	1·55	·36	9·22	50·46	39·24	28	
...	53	1,090	4,183	·37	·18	1·06	13·77	·87	9·26	·44	9·15	35·10	25·29	29	
1	5	93	574	1·45	1·67	...	30·08	1·83	1·22	·38	7·08	43·71	46·07	30	
...	21	208	913	4·80	·37	...	20·44	5·55	5·34	1·12	11·10	48·73	39·88	31	
...	7	222	762	1·65	...	...	24·73	·96	1·01	·37	11·80	40·52	48·95	32	
1	21	258	694	...	1·66	...	16·25	3·81	1·21	1·16	14·26	38·35	40·98	33	
...	3	37	426	...	...	...	27·43	·21	·14	·21	2·66	30·67	21·45	34	
...	14	78	504	·72	1·18	·27	26·92	4·35	3·90	1·27	7·07	45·68	48·37	35	
...	11	130	500	2·96	6·99	...	9·55	2·15	2·49	·74	8·74	33·63	26·88	36	
...	6	27	404	...	...	...	31·74	·71	·71	·54	2·41	36·12	31·09	37	
...	32	378	1,532	·10	·74	...	21·01	1·89	4·93	·82	9·66	39·16	42·26	38	
...	22	106	677	·19	·31	...	29·30	2·57	2·00	1·38	6·64	42·39	42·09	39	
2	66	639	3,701	·01	·01	...	21·14	3·89	11·18	·80	7·73	44·77	45·18	40	
...	13	112	1,750	·14	1·54	...	20·27	7·14	9·98	·31	2·69	42·08	48·45	41	
...	24	566	1,745	·02	1·53	·05	15·25	4·42	7·27	·59	13·99	43·14	38·11	42	
...	6	253	962	·20	·32	...	14·82	5·05	7·55	·24	10·05	38·23	44·63	43	
1	6	234	976	5·85	·60	·06	28·82	1·45	7·60	·36	14·11	58·85	47·21	44	
1	26	470	2,179	·64	·20	...	15·22	2·57	5·83	·38	6·83	31·68	35·13	45	

Paragraphs 4, 8, 12, 17, 24, 28, 30 and 32 of Chapter III.]

ANNUAL

Deaths from **different causes** and births registered in the **towns**
(such towns) of the United Provinces during

1	2	3	4	5			6	7	8	
Number.	Districts.	Towns.	Population according to census of 1921.	Births.			Birth-rate per 1,000 of population.	Cholera.	Small-pox.	Plague.
				Male.	Female.	Total.				
		<i>B.—Towns—</i> (contd.).								
46	Pilibhit ...	Pilibhit ...	32,344	897	886	1,783	55.13	35	145	...
47	Farrukhabad }	Farrukhabad-cum-Fatehgarh.	48,331	1,392	1,386	2,728	56.44	83	24	...
48		Kanauj ...	18,258	386	326	712	39.00	...	7	...
49		Etawah ...	41,558	1,196	1,253	2,449	58.93	95	18	...
50	Cawnpore ...	Cawnpore ...	195,085	4,767	4,580	9,347	47.91	26	10	...
51	Fatehpur ...	Fatehpur ...	14,948	449	412	861	57.60	3	.	...
52	Allahabad ...	Allahabad ...	145,605	3,765	3,612	7,377	50.66	99	121	...
53	Jhansi }	Jhansi ...	50,499	1,642	1,549	3,191	63.19	9	27	...
54		Mau ...	12,554	327	320	647	51.54	1	7	...
55		Jhansi notified area.	12,315	317	250	567	46.04	8	26	...
56	Jalaun }	Lalitpur ...	11,504	266	262	528	45.90	10	9	...
57		Kalpi ..	10,037	261	215	476	47.42	...	...	...
58		Konch ...	14,503	366	295	661	45.58	...	100	...
59	Hamirpur ...	Mahoba ...	11,648	259	192	451	38.72	4	...	...
60	Banda ...	Banda ...	20,029	220	183	403	20.12	89	11	...
61	Benares ...	Benares ...	195,373	5,145	5,032	10,177	52.09	124	156	...
62	Mirzapur ...	Mirzapur Bindachal.	54,994	1,372	1,275	2,647	48.13	46	2	...
63	Jaunpur ...	Jaunpur ...	32,569	627	570	1,197	36.75	...	3	...
64	Ghazipur ... }	Ghazipur ...	24,708	462	449	911	36.87	46	10	...
65		Sherpur ..	10,236	63	49	112	10.94	18	4	...
66	Ballia ...	Ballia ...	18,215	256	205	461	25.31	10	2	6
67	Gorakhpur... }	Gaura Barhaj	12,497	325	321	646	51.69	7	1	...
68		Gorakhpur...	50,498	1,353	1,333	2,686	53.19	224	7	134
69	Basti ...	Basti ...	17,691	238	189	427	24.14	12	29	1
70	Azamgarh ... }	Mubarakpur	12,500	241	210	451	36.08	..	..	..
71		Azamgarh ...	14,788	286	270	556	37.60	21	2	1
72		Mau ...	17,998	399	317	716	39.78	5	2	2
73	Naini Tal ... }	Naini Tal ...	(b) 10,392	157	167	324	24.08	...	2	1
74		Kashipur ...	10,576	259	260	519	49.07	39	7	11
75	Lucknow ...	Lucknow ...	217,167	4,542	4,252	8,794	40.49	18	29	...
76	Unao ...	Unao ...	11,147	233	241	474	42.52	1	5	...
77	Rae Bareli ... }	Rae Bareli ...	16,183	365	346	711	43.93	36	8	...
78		Khairabad ...	11,522	259	296	555	48.17	3	6	...
79	Sitapur ... }	Laharpur ...	11,185	307	253	560	50.07	94	46	8
80		Sitapur ...	18,432	546	497	1,043	56.59	137	8	1
81	Hardoi ... }	Shahabad ...	18,696	358	329	687	36.74	27	1	...
82		Sandila ...	14,074	414	353	767	54.50	...	3	...
83		Hardoi ...	14,412	253	231	484	33.58	21	7	...
84	Kheri ...	Lakhimpur...	12,396	238	207	445	35.90	25	1	102
85	Fyzabad ... }	Fyzabad-	51,342	700	619	1,319	25.69	56	14	...
		Ajodhya.								
86	Gonda ... }	Tanda ...	18,258	445	450	895	49.02	16	12	...
87		Gonda ...	13,228	339	307	646	48.83	27	4	...
88		Balrampur ...	16,131	385	335	720	44.63	61	...	...
89	Bahraich ... }	Bahraich ...	27,371	546	514	1,060	38.73	1	...	...
90		Nanpara ...	10,924	269	228	497	45.50	...	...	...
91	Bara Banki... }	Nawabganj...	12,369	289	229	518	41.88	24	2	...
92		Rudauli ...	10,327	246	230	476	46.09	21	...	...
		Total of Towns	3,032,984	77,671	72,946	150,617	49.66	2,192	1,501	441
		Total of Rural districts.	42,342,803	817,837	724,719	1,542,556	36.43	59,142	9,570	10,419
		Total for the Province.	45,375,787	895,508	797,665	1,693,173	37.31	61,334	11,071	10,860

(b) Rates calculated on average population 13,454.

FORM NO. VI.

(having a population of 10,000 and upwards) and **districts** (exclusive of the year 1930—(continued).

9	10	11	12						13	14	15			16
Fevers.	Dy- sen- tery and diarr- hoea.	Res- pira- tory dis- eases.	Injuries.						All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population.			Number.
			Suicide.		Wounds or acci- dents.	Snake-bite or killed by wild beasts.	Rabies.	Total.			Cholera.	Small-pox.	Plague.	
			Male.	Female.										
942	129	617	..	..	15	3	..	18	211	2,097	1·08	4·48	...	48
537	275	746	1	..	103	1	2	107	819	2,591	1·72	·50	..	47
179	34	60	...	2	4	...	...	6	114	400	...	·38	...	48
1,139	110	239	1	..	51	..	...	52	639	2,292	2·28	·43	...	49
3,465	457	2,709	4	2	59	1	...	66	1,884	8,618	·13	·05	...	50
334	80	92	...	...	22	2	...	24	204	737	·20	...	...	51
1,583	323	1,455	1	...	29	1	...	31	2,139	5,751	·68	·83	...	52
2,031	98	222	1	3	35	2	...	41	605	3,033	·18	·53	...	53
498	77	159	1	1	16	...	...	18	139	899	·08	·56	...	54
203	49	72	1	...	5	...	...	6	133	497	·65	2·11	...	55
429	14	21	...	..	4	...	...	4	59	546	·87	·78	...	56
149	24	105	...	...	4	2	1	7	72	357	...	...	...	57
255	36	177	...	...	12	2	...	14	80	662	...	6·89	...	58
356	5	37	...	...	3	1	...	4	...	406	·34	...	...	59
262	37	54	1	...	16	...	...	17	123	593	4·44	·55	...	60
5,551	773	1,881	4	2	231	3	2	242	2,163	10,890	·63	·80	...	61
680	181	198	...	...	47	2	...	49	277	1,433	·84	·04	...	62
386	68	170	5	1	38	6	1	51	237	915	...	·09	...	63
362	53	72	1	...	19	3	1	24	52	619	1·86	·40	...	64
101	...	...	...	1	...	1	...	2	11	136	1·76	·39	...	65
90	28	...	..	...	12	2	...	14	101	251	·55	·11	·33	66
227	74	25	..	...	9	3	3	15	67	416	·56	·08	...	67
903	194	322	...	...	31	3	2	36	630	2,450	4·43	·14	2·65	68
180	6	37	...	..	7	1	...	8	87	360	·68	1·64	·06	69
80	37	83	...	..	9	1	2	12	82	294	...	...	...	70
224	58	49	...	...	5	3	2	10	76	441	1·42	·13	·07	71
206	28	55	1	3	22	2	1	29	66	393	·28	·11	·11	72
61	1	131	...	...	2	...	...	2	59	257	...	·15	·07	73
151	66	140	1	...	6	2	...	9	64	487	3·69	·66	1·04	74
2,128	857	3,103	1	1	81	3	1	87	4,009	10,231	·08	·13	...	75
203	10	12	...	...	7	...	...	7	78	316	·09	·45	...	76
388	32	218	...	...	5	1	...	6	65	753	2·22	·49	...	77
193	16	12	...	...	1	2	2	5	143	378	·26	·52	...	78
194	3	...	...	...	1	...	...	1	63	409	8·40	4·11	·71	79
357	84	55	...	..	15	1	..	16	281	939	7·43	·43	·05	80
256	20	9	...	1	1	...	...	2	80	395	1·44	·05	...	81
429	71	46	...	...	7	...	2	9	207	765	...	·21	...	82
268	26	18	...	...	7	...	...	7	45	392	1·46	·48	...	83
178	11	16	...	...	6	1	1	8	61	402	2·02	·08	8·23	84
508	194	263	...	...	35	7	...	42	362	1,439	1·09	·27	...	85
380	52	72	...	...	17	6	...	23	164	719	·88	·66	..	86
338	10	33	...	1	5	1	...	7	155	574	2·04	·30	...	87
283	71	197	19	23	19	1	...	62	8	682	3·78	...	...	88
454	32	80	...	..	17	...	1	18	128	713	·04	...	...	89
213	31	29	...	...	8	2	1	11	74	358	...	...	...	90
208	12	12	...	...	3	...	1	4	73	335	1·94	·16	...	91
173	24	58	...	...	5	...	...	5	83	364	2·03	...	...	92
55,398	9,233	24,377	62	51	2,186	95	40	2,434	28,762	124,333	·72	·49	·14	
887,076	6,991	10,414	537	1,196	11,343	4,485	490	18,051	108,124	1,109,787	1·40	·23	·25	
942,469	16,224	34,791	599	1,247	13,529	4,580	530	20,485	136,886	1,234,120	1·35	·24	·24	

Paragraphs 4, 8, 12, 17, 24, 28, 30 and 32 of Chapter III.]

ANNUAL FORM NO. VI.

Deaths from **different causes** and births registered in the **towns** (having a population of 10,000 and upwards) and **districts** (exclusive of such towns) of the United Provinces during the year 1930—(concluded).

1 Number.	2 Districts.	3 Towns.	4 Popula- tion according to census of 1921.	15 Ratio of deaths per 1,000 of population.						
				Fevers.	Dysentery and diarrhoea.	Respiratory dis- eases.	Injuries.	All other causes.	From all causes.	
									For the year.	Mean ratio of previ- ous five years.
		<i>B.—Towns— (concl'd.).</i>								
46	Pilibhit	Pilibhit ...	32,344	29·12	3·98	19·08	·56	6·52	64·83	49·69
47	Farukhabad	Farukhabad- cum-Fateh- garh.	48,331	11·11	5·69	15·43	2·21	16·94	53·61	43·17
48		Kanauj ...	18,258	9·80	1·86	3·29	·33	6·24	21·91	25·87
49	Etawah ...	Etawah ...	41,558	27·41	2·65	5·75	1·25	15·38	55·15	48·57
50	Cawnpore ...	Cawnpore ...	195,085	17·76	2·34	13·89	·33	9·66	44·17	47·19
51	Fatehpur ...	Fatehpur ...	14,948	22·34	5·35	6·15	1·60	13·65	49·30	32·52
52	Allahabad ...	Allahabad ...	145,605	10·87	2·22	9·99	·21	14·69	39·50	32·24
53	Jhansi	Jhansi ...	50,499	40·22	1·94	4·40	·81	11·98	60·06	39·81
54		Mau ...	12,554	39·67	6·13	12·66	1·43	11·07	71·61	38·73
55		Jhansi noti- fied area.	12,315	16·48	3·98	5·85	·49	10·80	40·36	(c)
56	Jalaun	Lalitpur ...	11,504	37·29	1·22	1·82	·35	5·13	47·46	40·78
57		Kalpi ...	10,037	14·84	2·39	10·46	·70	7·17	35·57	37·52
58	Hamirpur	Konch ...	14,503	17·58	2·48	12·20	·96	5·52	45·64	29·73
59		Mahoba ...	11,643	30·56	·43	3·18	·34	..	34·85	26·99
60	Banda ...	Banda ...	20,029	13·08	1·85	2·70	·85	6·14	29·61	19·11
61	Benares ...	Benares ...	195,373	28·41	3·96	9·63	1·24	11·07	55·74	54·25
62	Mirzapur	Mirzapur-Bin- dhachal.	54,994	12·36	3·29	3·60	·89	5·04	26·06	25·89
63	Jaunpur ...	Jaunpur ...	32,569	11·85	2·09	5·22	1·56	7·28	23·09	23·44
64	Ghazipur	Ghazipur ...	24,708	14·65	2·14	2·91	·97	2·10	25·05	19·94
65		Sherpur ...	10,236	9·87	...	...	·19	1·07	13·29	14·10
66	Ballia ...	Ballia ...	18,215	4·94	1·54	...	·77	5·54	13·78	19·42
67	Gorakhpur	Gaura Barhaj	12,497	18·16	5·92	2·00	1·20	5·36	33·29	21·33
68		Gorakhpur ..	50,498	17·88	3·84	6·38	·71	12·47	48·52	37·08
69	Basti ...	Basti ...	17,691	10·17	·34	2·09	·45	4·92	20·35	20·63
70	Azamgarh	Mubarakpur	12,500	6·40	2·96	6·64	·96	6·56	23·52	28·58
71		Azamgarh ...	14,788	15·15	3·92	3·31	·68	5·14	29·82	25·72
72		Mau ...	17,993	11·44	1·55	3·05	1·61	3·67	21·83	22·98
73	Naini Tal	Naini Tal ...	(b) 10,392	4·53	·07	9·74	·15	4·88	19·10	20·44
74		Kashipur ...	10,576	14·28	6·24	13·24	·85	6·05	46·05	35·78
75	Lucknow ...	Lucknow ...	217,167	9·80	3·95	14·29	·40	18·46	47·11	47·33
76	Unao ...	Unao ...	11,147	18·21	·90	1·07	·63	7·00	28·35	31·34
77	Rae Bareli ...	Rae Bareli ...	16,183	23·97	1·98	13·47	·37	4·02	46·53	35·59
78	Sitapur	Khairabad ...	11,522	16·75	1·39	1·04	·43	12·41	32·81	34·85
79		Laharpur ...	11,185	17·34	·27	...	·09	5·63	36·57	26·57
80		Sitapur ...	18,432	19·37	4·56	2·98	·87	15·24	50·94	41·96
81	Hardoi	Shahabad ...	18,696	13·69	1·07	·48	·11	4·28	21·13	38·99
82		Sandila ...	14,074	30·48	5·04	3·27	·64	14·71	54·35	42·66
83	Kheri	Hardoi ...	14,412	18·59	1·80	1·25	·48	3·12	27·20	23·77
84		Lakhimpur	12,396	14·36	·89	1·29	·64	4·92	32·43	27·10
85	Fyzabad	Fyzabad- Ajodhya.	51,342	9·89	3·78	5·12	·82	7·05	28·03	26·16
86		Tanda ...	18,258	20·81	2·85	3·94	1·26	8·93	39·38	38·34
87	Gonda	Gonda ...	13,223	25·55	·75	2·49	·53	11·72	43·39	20·39
88		Balrampur...	16,131	17·54	4·40	12·21	3·84	·49	42·23	34·71
89	Bahraich	Bahraich ...	27,371	16·59	1·17	2·92	·66	4·67	26·05	25·53
90		Nanpara ...	10,924	19·50	2·84	2·65	1·01	6·77	32·77	40·24
91	Bara Banki...	Nawabganj	12,369	16·82	·97	·97	·32	5·90	27·08	18·63
92		Rudauli ..	10,327	16·75	2·32	5·62	·48	8·04	35·25	36·47
		Total of Towns	3,032,984	18·26	3·04	8·04	·80	9·48	40·99	38·32
		Total of rural districts.	42,342,803	20·95	·16	·24	·43	2·55	26·21	23·13
		Total for the Province.	45,375,787	20·77	·36	·77	·45	3·02	27·20	24·18

(b) Rates calculated on average population 13,454.

(c) Population increased in 1929.

Paragraphs 22 of Chapter II and 19 and 34 of Chapter III.]

SUPPLEMENTARY ANNUAL FORM NO. VI(a).

Deaths registered from **certain causes** in the **towns** (having a population of 10,000 and upwards) and **districts** (exclusive of such towns) of the United Provinces, during the year, 1930.

1	2	3	4		5		6	
Number.	Districts and Towns.	Popula- tion according to census of 1921.	Malaria.		Enteric fever.		Measles.	
			Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
A.—Rural Districts.								
MEERUT DIVISION.								
1	Dehra Dun	170,446	2,059	12·08	10	·06	15	·09
2	Saharanpur	802,435	21,666	27·00	53	·07	241	·30
3	Muzaffarnagar	743,280	15,973	21·49	190	·25	187	·25
4	Meerut	1,385,632	29,548	21·32	52	·04	323	·26
5	Bulandshahr	994,160	25,363	25·51	69	·07	1,036	1·04
AGRA DIVISION.								
6	Aligarh	943,001	20,522	21·76	50	·05	193	·20
7	Muttra	555,782	10,099	18·17	351	·63	457	·82
8	Agra	740,222	13,547	18·30	156	·21	233	·31
9	Mainpuri	723,301	14,219	19·66	..	..	177	·24
10	Etah	797,813	14,212	17·81	182	·23	138	·17
ROHILKHAND DIVISION.								
11	Bareilly	881,568	34,645	39·30	35	·04	870	·99
12	Bijnor	644,757	17,583	27·27	60	·09	500	·77
13	Budaun	909,071	24,592	27·05	19	·02	683	·75
14	Moradabad	1,008,785	28,301	28·05	345	·34	1,134	1·12
15	Shahjahanpur	753,749	22,410	29·73	42	·05	264	·35
16	Pilibhit	399,257	14,237	35·66	27	·07	163	·41
ALLAHABAD DIVISION.								
17	Farrukhabad	790,044	18,258	23·11	190	·24	161	·20
18	Etawah	691,974	12,599	18·21	120	·17	536	·77
19	Cawnpore	953,579	15,118	15·85	65	·07	1,148	1·20
20	Fatehpur	637,444	10,998	17·25	42	·06	275	·43
21	Allahabad	1,258,840	17,284	13·73	1,083	·86	298	·24
JHANSI DIVISION.								
22	Jhansi	519,627	18,215	35·05	144	·28	146	·28
23	Jalaun	380,899	3,815	10·01	88	·23	390	1·02
24	Hamirpur	453,675	9,629	21·22	..	..	638	1·41
25	Banda	568,007	14,020	24·68	130	·23	389	·68
BENARES DIVISION.								
26	Benares	756,658	11,013	14·55	552	·73	44	·06
27	Mirzapur	669,189	12,372	18·49	11	·02	66	·10
28	Jaunpur	1,122,536	12,871	11·47	134	·12	117	·10
29	Ghazipur	746,626	11,391	15·26	413	·55	233	·31
30	Ballia	812,794	7,543	9·28	475	·58	83	·10
GORAKHPUR DIVISION.								
31	Gorakhpur	3,203,835	50,496	15·76	276	·09	228	·07
32	Basti	1,907,537	25,395	13·31	1,169	·61	134	·07
33	Azamgarh	1,482,726	24,960	16·83	74	·05	218	·15
KUMAUN DIVISION.								
34	Naini Tal	255,907	6,803	26·58	281	1·10	41	·16
35	Almora	530,338	7,278	13·72	366	·69	205	·39
36	Garhwal	485,186	9,791	20·18	..	..	48	·10
LUCKNOW DIVISION.								
37	Lucknow	507,177	14,934	29·44	49	·10	115	·23
38	Unao	807,981	15,827	19·59	33	·04	292	·36
39	Rae Bareli	920,220	15,005	16·30	25	·03	595	·65
40	Sitapur	1,048,342	20,551	19·60	45	·04	362	·34
41	Hardoi	1,037,228	21,859	21·07	514	·49	468	·45
42	Kheri	901,079	19,867	22·05	303	·34	218	·24
FYZABAD DIVISION.								
43	Fyzabad	1,102,975	6,707	6·08	26	·02	177	·16
44	Gonda	1,443,739	16,791	11·63	228	·16	309	·21
45	Bahraich	1,027,082	20,321	19·78	61	·06	153	·15
46	Sultanpur	1,003,912	18,612	18·54	25	·02	491	·49
47	Partabgarh	855,130	14,690	17·18	21	·02	393	·46
48	Bara Banki	1,007,258	20,909	20·76	37	·04	974	·97
Total of rural districts ...		42,342,803	814,898	19·24	8,621	·20	16,559	·39

Paragraphs 22 of Chapter II and 19 and 34 of Chapter III.]

SUPPLEMENTARY

Deaths registered from **Certain Causes** in the **Towns** (having a
of the United Provinces

1	2	3	7		8		9		10	
Number.	Districts and towns.	Popula- tion according to census of 1921.	Relapsing fever.		Kala Azar.		Other fevers.		Dysentery.	
			Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
	<i>A—Rural Districts</i> (concluded).									
	MEERUT DIVISION.									
1	Dehra Dun ...	170,446	1	...	...	...	795	4·66	34	·20
2	Saharanpur ...	802,435	5	·01	2	...	906	1·13	29	·04
3	Muzaffarnagar ...	743,280	2	...	...	...	200	·27	27	·04
4	Meerut ...	1,385,632	1	...	...	...	277	·20	27	·02
5	Bulandshahr ...	994,160	1	...	...	...	536	·54	81	·08
	AGRA DIVISION.									
6	Aligarh ...	943,001	2	...	...	...	86	·09	30	·03
7	Muttra ...	555,782	...	...	...	...	1,491	2·68	23	·04
8	Agra ...	740,222	1	...	2	...	1,194	1·61	12	·02
9	Mainpuri ...	723,301	...	...	...	...	22	·03	3	...
10	Etah ...	797,813	6	·01	1	...	106	·13	8	·01
	ROHILKHAND DIVI- SION.									
11	Bareilly ...	881,568	621	·70	...	...	149	·17	65	·07
12	Bijnor ...	644,757	2	...	...	...	79	·12	22	·03
13	Budaun ...	909,071	15	·02	14	·01	60	·07	18	·02
14	Moradabad ...	1,008,785	...	...	...	...	301	·30	117	·11
15	Shahjahanpur ...	753,749	2	...	...	...	21	·03	4	...
16	Pilibhit ...	399,257	...	...	...	...	37	·09	22	·05
	ALLAHABAD DIVISION.									
17	Farrukhabad ...	790,044	...	...	1	...	69	·09	12	·01
18	Etawah ...	691,974	7	·01	...	...	84	·12	2	...
19	Cawnpore ...	953,579	...	...	...	...	418	·44	16	·02
20	Fatehpur ...	637,444	1	...	2	...	5	·01	42	·06
21	Allahabad ...	1,258,840	2	...	11	·01	985	·78	43	·03
	JHANSI DIVISION.									
22	Jhansi ...	519,627	...	...	...	...	707	1·36	55	·10
23	Jalaun ...	380,899	4	·01	...	...	5,420	14·23	26	·07
24	Hamirpur ...	453,675	...	...	...	...	4,865	10·72	6	·01
25	Banda ...	568,007	...	...	...	...	388	·68	28	·05
	BENARES DIVISION.									
26	Benares ...	756,658	3	...	5	·01	70	·09	18	·02
27	Mirzapur...	669,189	1	...	1	...	226	·34	12	·02
28	Jaunpur ...	1,122,536	...	...	...	...	2,310	2·06	22	·02
29	Ghazipur ...	746,626	1	...	76	·10	130	·17	19	·02
30	Ballia ...	812,794	32	·04	2	...	2,151	2·65	317	·39
	GORAKHPUR DIVISION.									
31	Gorakhpur ...	3,203,835	1	...	42	·01	2,697	·84	132	·04
32	Basti ...	1,907,537	1	...	2	...	7	...	49	·02
33	Azamgarh ...	1,482,726	4	...	5	...	174	·12	100	·07
	KUMAUN DIVISION.									
34	Naini Tal ...	255,907	390	1·52	8	·03	490	1·91	93	·36
35	Almora ...	530,338	...	...	...	...	3,106	5·86	390	·73
36	Garhwal ...	485,186	...	...	...	...	343	·71	1,841	3·80
	LUCKNOW DIVISION.									
37	Lucknow ...	507,177	...	...	...	...	284	·56	61	·12
38	Unao ...	807,981	1	...	6	·01	46	·06	55	·07
39	Rae Bareli ...	920,220	...	...	8	·01	657	·71	79	·08
40	Sitapur ...	1,048,342	...	...	2	...	819	·78	18	·02
41	Hardoi ...	1,037,228	8	·01	...	...	20	·02	23	·02
42	Kheri ...	901,079	11	·01	1	...	84	·09	25	·03
	FYZABAD DIVISION.									
43	Fyzabad ...	1,102,975	4	...	3	...	10,295	9·34	58	·05
44	Gonda ...	1,443,739	1	...	...	...	2,142	1·48	22	·01
45	Babraich ...	1,027,082	...	...	...	...	29	·03	103	·10
46	Sultanpur ...	1,003,912	32	·03	2	...	99	·10	74	·07
47	Partabgarh ...	855,130	18	·02	62	·07	15	·02	18	·02
48	Bara Banki ...	1,007,258	...	...	2	...	162	·16	54	·05
	TOTAL OF RURAL DIS- TRICTS.	42,342,803	1,181	·03	260	·01	45,557	1·07	4,335	·10

ANNUAL FORM No. VI (a).

population of 10,000 and upwards) and **districts** (exclusive of such towns) during the year 1930—(contd.).

11		12		13		14		15	16			17	18
Diarrhoea.		Pneumon- ia..		Phthisis.		Other respir- atory diseases.		Deaths from child birth. *	Deaths under one year.			Infant mortal- ity rate.	Number.
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.		
65	·38	30	·18	4	·02	162	·95	12	445	342	787	163·96	1
63	·08	32	·04	24	·03	80	·10	36	3,560	3,235	6,795	177·38	2
74	·10	..	..	9	·01	80	·11	20	2,754	2,202	4,956	153·91	3
46	·03	2	..	2	..	271	·19	34	4,501	3,900	8,401	154·09	4
123	·12	5	..	6	·01	177	·18	45	4,109	3,642	7,751	172·80	5
74	·08	17	·02	36	·04	102	·11	15	2,649	2,199	4,848	124·49	6
136	·24	12	·02	6	·01	121	·22	26	1,405	1,216	2,621	138·48	7
6	·01	51	·07	14	·02	80	·11	22	2,419	1,760	4,179	137·25	8
15	·02	1	..	8	·01	8	·01	12	2,103	1,648	3,751	156·84	9
151	·19	16	·02	23	·03	178	·22	34	2,062	1,623	3,685	121·93	10
81	·09	21	·02	13	·01	106	·12	15	4,729	4,208	8,937	223·25	11
50	·08	2	..	15	·02	70	·11	20	3,017	2,576	5,593	182·31	12
36	·04	9	·01	..	..	62	·07	13	3,767	3,490	7,257	177·76	13
252	·25	34	·03	15	·01	320	·32	47	4,648	4,036	8,684	175·75	14
42	·05	7	·01	6	·01	65	·09	8	3,819	3,061	6,880	184·93	15
59	·15	..	..	6	·01	51	·13	7	2,091	1,724	3,815	214·81	16
33	·04	7	·01	16	·02	98	·12	8	3,655	2,870	6,525	187·00	17
15	·02	15	·02	6	·01	68	·10	6	2,433	1,913	4,346	170·44	18
22	·02	16	·02	32	·03	101	·10	9	2,442	1,916	4,358	157·74	19
36	·06	4	·01	4	·01	134	·21	20	2,340	1,993	4,333	212·07	20
51	·04	6	..	9	·01	159	·13	11	3,527	2,796	6,323	180·19	21
86	·16	31	·06	4	·01	118	·23	11	2,675	2,320	4,995	244·11	22
22	·06	11	·03	5	·01	45	·12	1	1,827	1,518	3,345	232·21	23
71	·16	163	·36	..	..	3,771	8·31	5	2,474	2,047	4,521	271·19	24
8	·01	..	..	..	..	32	·06	5	1,974	1,472	3,446	199·61	25
5	·01	3	..	4	..	31	·04	8	2,585	1,953	4,538	163·76	26
21	·03	..	..	..	..	42	·06	14	2,403	1,991	4,394	176·07	27
10	·01	17	·01	3	..	28	·02	4	2,925	2,197	5,122	160·39	28
16	·02	1	..	27	·04	40	·05	17	2,228	1,692	3,920	147·72	29
34	·04	13	·01	21	·02	132	·16	36	1,967	1,336	3,303	128·37	30
17	..	4	..	11	..	140	·04	36	8,094	6,187	14,281	125·94	31
30	·01	1	..	7	..	103	·05	14	4,905	3,980	8,885	144·85	32
14	·01	1	..	4	..	159	·11	30	4,276	3,363	7,639	148·29	33
43	·17	17	·07	15	·06	99	·39	32	1,115	969	2,084	271·28	34
469	·88	71	·13	59	·11	493	·93	40	1,747	1,550	3,297	136·03	35
77	·16	41	·08	20	·04	371	·76	43	1,763	1,541	3,304	153·11	36
10	·02	..	..	13	·02	141	·28	10	1,962	1,632	3,594	204·49	37
19	·02	9	·01	18	·02	149	·18	7	2,098	1,845	3,943	165·89	38
4	..	13	·01	5	..	103	·11	6	1,892	1,510	3,402	143·31	39
17	·02	10	·01	18	·02	51	·05	3	3,270	2,672	5,942	151·44	40
63	·06	10	·01	7	·01	63	·06	7	3,189	2,620	5,809	144·79	41
38	·04	6	·01	6	·01	41	·04	8	2,745	2,204	4,949	146·43	42
8	01	3	..	6	..	42	·04	3	3,047	2,513	5,560	160·91	43
22	·01	..	..	5	..	152	·10	13	2,672	2,203	4,875	119·74	44
70	·07	..	..	4	..	35	·03	6	3,476	2,892	6,368	160·95	45
18	·02	..	..	7	·01	97	·10	11	2,961	2,249	5,210	180·98	46
4	..	1	..	22	·02	63	·07	6	2,216	1,737	3,953	166·29	47
30	·03	..	..	23	·02	99	·10	8	3,020	2,405	5,425	155·35	48
2,656	·06	713	·02	508	·01	9,133	·21	804	137,981	112,948	250,929	162·67	

* NOTE.—By the term "Deaths from child-birth" is meant "deaths during or within 14 days of labour."

Paragraphs 22 of Chapter II and 19 and 34 of Chapter III.]

SUPPLEMENTARY

Deaths registered from **certain causes** in the **towns** (having a
of the United Provinces

1	2	3	4	5		6		7	
Number.	Districts.	Towns.	Popula- tion according to census of 1921.	Malaria.		Enteric fever.		Measles.	
				Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
		<i>B.—Towns.</i>							
1	Dehra Dun {	Dehra ...	33,500	66	1·97	10	·30	9	·27
2		Mussocree ...	(a) 8,297	3	·23	...	...	2	·15
3	Saharanpur {	Hardwar Union	30,795	...	..	...	...	16	·52
4		Saharanpur ...	62,261	64	1·0 3	3	·05	27	·43
5		Deoband ...	17,891	...	...	...	...	...	...
6		Gangoh ...	11,843	...	...	...	...	...	...
7		Roorkee ;	12,246	...	...	...	...	...	...
8	Muzaffar- nagar. {	Kairana ..	16,683	15	·90	4	·24	9	·54
9		Kandhla ...	10,365	208	20·07	...	...	1	·10
10		Muzaffarnagar ..	23,937	331	13·83	...	...	2	·08
11	Meerut ... {	Meerut ...	77,711	43	·55	27	·35	6	·08
12		Hapur ...	20,388	284	13·93	...	...	42	2·06
13		Ghaziabad ...	15,343	295	19·23	1	·06	...	...
14	Buland- shahr. {	Khurja ..	25,719	733	28·50	1	·04	17	·66
15		Sikandrabad ...	16,857	293	17·38	...	...	51	3·02
16		Bulandshahr ...	19,504	332	17·03	21	1·08	120	6·15
17		Jahangirabad ...	10,279	149	14·49	3	·29	60	5·84
18	Aligarh ... {	Aligarh or Koil...	66,963	34	·51	14	·21	22	·33
19		Hathras ...	38,763	99	2·55	149	3·84	215	5·55
20		Atrauli ...	13,018	201	15·44	18	1·88	18	1·38
21	Muttra ... {	Muttra ...	48,724	94	1 93	131	2·69	70	1·43
22		Brindaban ...	14,632	538	36·77	1	·07	15	1·02
23	Agra ... {	Agra ...	163,750	134	·82	132	·81	82	·50
24		Firozabad ...	20,183	232	11·49	1	·05	45	2·23
25	Mainpuri ... {	Mainpuri ...	14,352	122	8·50	...	...	1	·07
26		Shikohabad ...	10,374	117	11·28	...	...	7	·67
27	Etah ... {	Kasganj ...	20,988	367	17·49	42	2·00	41	1·95
28		Soron ...	10,959	151	13·78	...	...	...	...
29	Bareilly ... {	Bareilly ...	119,175	187	1·57	...	...	47	·39
30		Aonla ...	13,132	344	26·19	7	·53	44	3·35
31	Bijnor ... {	Nagina ...	18,736	235	12·54	35	1·87	22	1·17
32		Najibabad ...	18,804	8	·42	...	...	57	3·03
33		Bijnor ...	18,095	170	9·39	...	...	73	4·03
34		Sherkot ...	13,889	183	13·17	39	2·81	159	11·44
35		Chandpur ...	11,032	161	14·59	17	1·54	49	4·44
36		Kiratpur ...	14,869	3	·20	...	...	17	1·14
37	Budaun ... {	Ujhani ...	11,186	267	23·87	...	...	84	7·51
38		Budaun ...	39,118	490	12·53	2	·05	84	2·15
39		Sahaswan ...	15,972	366	22·91	3	·19	97	6·07
40	Moradabad {	Moradabad ...	82,671	651	7·87	...	...	1	·01
41		Sambhal ...	41,585	793	19·07	...	...	50	1·20
42		Amroha ...	40,448	38	·94	63	1·56	157	3·88
43		Chandausi ...	25,164	128	5·09	1	·04	7	·28
44	Shahjahan- pur. {	Tilhar ...	16,584	...	...	...	...	...	...
45		Shahjahanpur ...	68,782	69	1·00	54	·78	52	·76

(a) Rates calculated on average population 12,943.

ANNUAL FORM No. VI (a).

population of 10,000 and upwards) and **districts** (exclusive of such towns)
during the year 1930—(contd.).

8		9		10		11		12		13		14		15
Relapsing fever.		Kala Azar.		Other fevers.		Dysentery.		Diarrhoea.		Pneumonia.		Phthisis.		Number.
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	
...	223	6.66	47	1.40	67	2.00	259	7.73	26	.78	1
...	22	1.70	5	.39	2	.15	22	1.70	3	.23	2
...	777	25.23	109	3.54	1	.03	59	1.92	36	1.17	3
...	1,570	26.82	41	.66	103	1.65	63	1.01	39	.63	4
...	466	26.05	3	.17	23	1.28	...	...	...	...	5
...	268	22.63	...	...	14	1.18	...	...	...	...	6
...	288	23.52	3	.24	38	3.10	...	...	...	...	7
...	378	22.66	4	.24	9	.54	...	...	...	...	8
...	9
...	202	8.44	6	.25	63	2.63	...	...	...	...	10
...	771	9.92	10	.13	149	1.92	46	.59	148	1.90	11
...	4	.26	1	.06	90	4.41	11	.54	4	.20	12
...	1	.06	...	...	...	...	13
4	.15	...	...	24	.93	13	.51	70	2.72	21	.82	2	.08	14
...	12	.71	8	.47	40	2.37	21	1.24	35	2.08	15
...	7	.36	20	1.02	...	...	2	.10	16
...	25	2.43	1	.09	2	.19	...	...	...	...	17
...	711	10.63	77	1.15	350	5.23	316	4.72	34	.51	18
...	236	6.09	32	.82	231	5.96	85	2.19	54	1.39	19
...	1	.08	22	1.69	83	6.37	...	...	...	...	20
...	1,040	21.34	43	.88	166	3.41	171	3.51	132	2.71	21
...	19	1.30	14	.96	64	4.57	52	3.55	2	.14	22
4	.02	1	.01	2,094	12.79	185	1.13	416	2.54	1,719	10.50	422	2.58	23
1	.05	27	1.34	54	2.67	...	...	38	1.88	1	.05	...	...	24
...	25
...	6	.58	...	...	2	.19	...	...	...	...	26
...	28	1.33	...	...	...	...	27
...	260	23.72	...	...	10	.91	...	...	...	...	28
...	1,407	11.81	66	.55	38	.32	204	1.71	367	3.08	29
...	13	.99	11	.84	...	...	...	...	30
3	.16	...	...	88	4.70	39	2.08	65	3.47	40	2.13	27	1.44	31
...	400	21.27	12	.64	6	.32	...	...	...	...	32
...	51	2.82	32	1.77	37	2.04	...	...	...	...	33
...	3	.21	...	...	...	...	34
1	.09	...	...	69	6.25	9	.81	39	3.53	...	...	...	...	35
...	122	8.20	8	.54	24	1.61	16	1.08	...	...	36
...	4	.36	3	.27	5	.45	...	...	...	...	37
...	246	6.29	26	.66	48	1.23	58	1.48	78	1.99	38
...	2	.12	4	.25	37	2.32	...	...	3	.19	39
...	1,096	13.26	94	1.14	228	2.76	1	.01	46	.56	40
...	105	2.52	192	4.62	77	1.85	34	.82	41
...	359	8.87	78	1.93	101	2.50	73	1.80	75	1.85	42
...	237	9.42	18	.71	109	4.33	60	2.38	10	.40	43
...	478	28.82	15	.90	9	.54	5	.30	48	2.89	44
...	872	12.68	105	1.52	72	1.05	91	1.32	180	2.62	45

Paragraphs 22 of Chapter II and 19 and 34 of Chapter III.]

SUPPLEMENTARY ANNUAL FORM No. VI (a).

Deaths registered from **certain causes** in the **towns** (having a population of 10,000 and upwards) and **districts** (exclusive of such towns of the United Provinces during the year 1930—(contd.).

1 Number.	2 Districts.	3 Towns.	4 Population according to census of 1921.	16 Other respiratory diseases.		17 Deaths from child-birth*.	18 Deaths under one year.			19 Infant mortality rate.
				Deaths.	Ratio.		Male.	Female.	Total.	
		<i>B.--Towns.</i> (contd.).								
1	Dehra Dun {	Dehra ...	33,500	112	3.34	15	212	168	380	257.80
2		Mussooroe ..	(a)8,297	10	.77	1	19	20	39	229.41
3	Saharanpur {	Hardwar Union.	30,795	40	1.30	8	198	171	369	294.73
4		Saharanpur	62,261	225	3.61	43	642	546	1,188	317.22
5		Deoband ...	17,891	26	1.45	2	142	133	275	252.06
6		Gangoh ...	11,843	...	...	2	47	48	95	152.00
7		Roorkee ...	12,246	46	3.76	3	90	77	167	291.96
8	Muzaffarnagar {	Kairana ...	16,683	3	.18	3	88	65	153	186.36
9		Kandhla ...	10,365	...	...	...	45	29	74	188.77
10		Muzaffarnagar	23,937	31	1.30	11	134	113	247	185.43
11	Meerut ... {	Meerut ...	77,711	276	3.55	23	234	222	456	162.05
12		Hapur ...	20,388	86	4.22	2	117	106	223	195.96
13		Ghaziabad ...	15,343	28	1.82	2	43	48	91	137.25
14	Bulandshahr. {	Khurja ..	25,719	104	4.04	13	199	171	370	254.29
15		Sikandrabad	16,857	56	3.32	3	115	105	220	237.07
16		Bulandshahr	19,504	134	6.87	4	103	97	200	207.04
17		Jahangirabad	10,279	35	3.40	2	43	41	84	152.17
18	Aligarh ... {	Aligarh or Koil.	66,963	201	3.00	18	283	313	696	214.15
19		Hathras ...	38,763	134	3.46	25	322	300	622	294.79
20		Atrauli ...	13,018	8	.61	8	88	75	163	208.71
21	Muttra ... {	Muttra ...	48,724	206	4.23	47	407	373	780	269.80
22		Brindaban...	14,632	103	7.04	11	115	78	193	326.01
23	Agra ... {	Agra ...	163,750	555	3.39	105	1,271	1,136	2,407	203.46
24		Firozabad ...	20,183	35	1.73	8	95	82	177	187.90
25	Mainpuri ... {	Mainpuri ...	14,352	3	.21	...	30	23	53	269.03
26		Shikohabad	10,374	12	1.16	..	24	14	38	92.68
27	Etah ... {	Kasganj ...	20,988	19	.90	9	101	110	211	203.08
28		Soron ...	10,959	17	1.55	5	104	103	207	306.67
29	Bareilly ... {	Bareilly ...	119,175	533	4.47	28	605	530	1,135	192.31
30		Aonla ...	13,132	16	1.22	5	107	93	200	284.49
31	Bijnor ... {	Nagina ...	18,736	33	1.76	5	177	137	314	268.60
32		Najibabad ...	18,804	19	1.01	4	134	114	248	233.30
33		Bijnor ...	18,095	22	1.21	7	117	114	231	227.59
34		Sherkot ...	13,889	2	.14	2	53	61	114	238.99
35		Chandpur ...	11,032	43	3.90	2	77	93	170	243.55
36		Kiratpur ...	14,869	21	1.41	5	69	56	115	207.58
37	Budaun ... {	Ujhani ...	11,186	8	.71	..	82	43	125	210.44
38		Budaun ...	39,118	57	1.46	6	325	231	556	264.26
39		Sahaswan ...	15,972	29	1.81	4	122	125	247	256.49
40	Moradabad ... {	Moradabad ..	82,671	877	10.61	34	630	528	1,158	222.86
41		Sambhal ...	41,585	304	7.31	17	320	278	598	240.35
42		Amroha ...	40,448	145	3.61	23	284	270	554	220.36
43		Ohandausi ...	25,164	120	4.77	14	169	144	313	235.16
44	Shahjahanpur. {	Tilhar ...	16,584	73	4.40	14	161	144	305	294.68
45		Shahjahanpur	68,782	130	1.89	23	393	360	753	218.77

(a) Rates calculated on average population 12,943.

* NOTE.—By the term "Deaths from child-birth" is meant "deaths during or within 14 days of labour."

SUPPLEMENTARY ANNUAL FORM No. VI (a).

Deaths registered from **certain causes** in the **towns** (having a population of 10,000 and upwards) and **districts** (exclusive of such towns) of the United Provinces during the year 1930—(contd.).

1 Number.	2 Districts.	3 Towns.	4 Popula- tion according to census of 1921.	5 Malaria.		6 Enteric fever.		7 Measles.	
				Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
		<i>B.—Towns— (concl'd.).</i>							
46	Pilibhit ..	Pilibhit ...	32,344	594	18·36	...	...	137	4·23
47	Farrukh- abad. }	Farrukhabad- cum-Fateh- garh. }	48,331	316	6·54	3	·06	102	2·11
48		Kanauj ...	18,258	141	7·72	5	·27	8	·44
49	Etawah ...	Etawah ...	41,558	1	·02	8	·19	9	·22
50	Cawnpore...	Cawnpore ..	195,085	2	·01	...	...	3	·01
51	Fatehpur ...	Fatehpur ...	14,948	...	...	...	...	21	1·40
52	Allahabad...	Allahabad ...	145,605	29	·20	110	·75	82	·56
53		Jhansi ...	50,499	9	·18	31	·61	14	·28
54		Mau ...	12,554	391	31·14	11	88	96	7·65
55	Jhansi ...	Jhansi (notified area).	12,315	19	1·54	5	·41	35	2·84
56		Lalitpur ...	11,504	368	31·99	6	·52	47	4·08
57	Jalaun ...	Kalpi ...	10,037	107	10·66	...	...	41	4·08
58		Konch ...	14,503	152	10·48	...	...	61	4·21
59	Hamirpur...	Mahoba ...	11,648	290	24·90	...	...	66	5·67
60	Banda ...	Banda ...	20,029	31	1·55	...	...	14	·70
61	Benares ...	Benares ...	195,373	485	2·48	13	·07	350	1·79
62	Mirzapur ...	Mirzapur Bin- dhachal.	54,994	658	11·96	...	...	22	·40
63	Jaunpur ...	Jaunpur ...	32,569	111	3·41	2	·06	15	·46
64	Ghazipur ...	Ghazipur ...	24,708	349	14·12	3	·12	7	·28
65		Sherpur ...	10,236	97	9·48	...	...	4	·39
66	Ballia ...	Ballia ...	18,215	69	3·79	14	·77	7	·38
67	Gorakhpur {	Gaura Barhaj	12,497	222	17·76	...	...	4	·32
68		Gorakhpur ...	50,498	...	...	...	...	18	·36
69	Basti ...	Basti ...	17,691	9	·51	...	...	12	·68
70		Mubarakpur ...	12,500	78	6·24	...	...	2	·16
71	Azamgarh...	Azamgarh ...	14,788	184	12·44	14	·95	11	·74
72		Mau ...	17,998	158	8·78	24	1·33	15	·83
73	Naini Tal...	Naini Tal ...	(b) 10,392	2	·15	4	·30	1	·07
74		Kashipur ...	10,576	50	4·73	31	2·93	30	2·84
75	Lucknow ...	Lucknow ...	217,167	233	1·07	13	·06	17	·08
76	Unao ...	Unao ...	11,147	1	·09	...	...	...	...
77	Rae Bareli	Rae Bareli ...	16,183	305	18·85	...	...	23	1·42
78		Khairabad ...	11,522	186	16·14	5	·43	2	·17
79	Sitapur ...	Laharpur ...	11,185	39	3·49	1	·09	1	·09
80		Sitapur ...	18,432	25	1·36	4	·22	42	2·28
81		Shahabad ...	18,696	227	12·14	6	·32	23	1·23
82	Hardoi ...	Sandila ...	14,074	422	29·98	2	·14	5	·35
83		Hardoi ...	14,412	235	16·30	28	1·94	4	·28
84	Kheri ...	Lakhimpur ...	12,396	142	11·45	35	2·82	...	...
85	Fyzabad ...	Fyzabad-Ajodh- ya.	51,342	...	...	...	...	18	·35
86		Tanda ...	18,258	361	19·77	6	·33	13	·71
87	Gonda ...	Gonda ...	13,228	319	24·11	4	·30	12	·91
88		Balrampur ...	16,131	...	...	225	13·95	8	·49
89	Bahraich ...	Bahraich ..	27,371	424	15·49	1	·04	10	·36
90		Nanpara ...	10,924	210	19·22	...	...	2	·18
91	Bara Banki {	Nawabganj ...	12,369	17	1·37	3	·24	3	·24
92		Rudauli ...	10,327	149	14·43	...	...	24	2·32
Total of towns			3,032,984	17,215	5·67	1,396	·46	3,319	1·09
Total of Rural districts.			42,342,803	814,898	19·24	8,621	·20	16,559	·39
Total for the Province.			45,375,787	832,113	18·34	10,017	·22	19,878	·44

(b) Rates calculated on average population 13,454.

Paragraphs 22 of Chapter II and 19 and 34 of Chapter III.]

SUPPLEMENTARY

Deaths registered from **certain causes** in the **towns** (having a
of the United Provinces

1 Number.	2 Districts.	3 Towns.	4 Popula- tion according to census of 1921.	8 Relapsing fever.		9 Kala Azar.		10 Other fevers.		11 Dysentery.	
				Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
		<i>B.—Towns— (concl'd.)</i>									
46	Pilibhit ...	Pilibhit ...	32,344	...	...	...	...	211	6.52	66	2.04
47	Farrukh- abad. }	Farrukhabad- cum-Fateh- garh. }	48,331	...	...	...	...	116	2.40	76	1.57
48		Kanauj ...	18,258	...	...	...	...	25	1.37	4	.22
49	Etawah ...	Etawah ...	41,558	...	...	...	...	1,121	26.97	12	.29
50	Cawnpore ...	Cawnpore ...	195,085	...	...	...	...	3,460	17.73	172	.88
51	Fatehpur ...	Fatehpur ...	14,948	...	...	...	...	313	20.94	48	3.21
52	Allahabad ...	Allahabad ...	145,605	...	...	...	...	1,362	9.35	142	.97
53		Jhansi ...	50,499	...	...	...	...	1,977	39.15	48	.95
54		Mau ...	12,554	...	...	...	...	...	...	1	.08
55	Jhansi ...	Jhansi (noti- fied area).	12,315	1	.08	...	...	143	11.61	14	1.14
56		Lalitpur ...	11,504	...	...	...	...	8	.69	4	.35
57	Jalaun ...	Kalpi ...	10,037	...	...	...	...	1	.10	6	.60
58		Konch ...	14,503	...	...	...	...	42	2.89	15	1.03
59	Hamirpur...	Mahoba ...	11,648	...	...	...	...	...	...	5	.43
60	Banda ...	Banda ...	20,029	...	...	...	...	217	10.83	34	1.70
61	Benares ...	Benares ...	195,373	2	.01	11	.06	4,690	24.00	275	1.41
62	Mirzapur ...	Mirzapur Bin- dhachal.	54,994	...	...	...	...	...	...	32	.58
63	Jaunpur ...	Jaunpur ...	32,569	...	...	1	.03	257	7.89	45	1.38
64	Ghazipur ...	Ghazipur ...	24,708	...	...	...	...	3	.12	25	1.01
65		Sherpur ...	10,236	...	...	...	...	...	...	...	...
66	Ballia ...	Ballia ...	18,215	...	...	...	...	...	...	12	.66
67	Gorakhpur }	Gaura Barhaj	12,497	...	...	...	...	1	.08	44	3.52
68		Gorakhpur ..	50,498	...	...	...	...	885	17.52	154	3.05
69	Basti ...	Basti ...	17,691	...	...	1	.06	158	8.93	4	.23
70		Mubarakpur	12,500	...	...	...	...	...	...	29	2.32
71	Azamgarh.. }	Azamgarh ...	14,783	4	.27	...	...	11	.74	32	2.16
72		Mau ...	17,998	4	.22	...	...	5	.28	17	.94
73	Naini Tal... }	Naini Tal	(b)10,392	...	...	...	...	54	4.01	1	.07
74		Kashipur ...	10,576	38	3.59	...	...	2	.19	18	1.70
75	Lucknow ...	Lucknow ...	217,167	...	...	...	...	1,865	8.59	513	2.36
76	Unao ...	Unao ...	11,147	...	...	...	...	202	18.12	8	.72
77	Rae Bareli	Rae Bareli ...	16,183	...	...	1	.06	59	3.64	20	1.23
78		Khairabad ...	11,522	...	...	...	...	...	...	10	.87
79	Sitapur ...	Iaharpur ...	11,185	...	...	...	...	153	13.68	3	.27
80		Sitapur ...	18,432	...	...	...	...	286	15.52	35	1.90
81		Shahabad ...	18,696	...	...	...	...	...	...	3	.16
82	Hardoi ...	Sandila ...	14,074	...	...	...	...	...	...	49	3.48
83		Hardoi ...	14,412	...	...	...	...	1	.07	6	.42
84	Kheri ...	Lakhimpur...	12,396	...	...	...	...	1	.08	2	.16
85	Fyzabad ...	Fyzabad	51,342	...	...	1	.02	489	9.52	108	2.10
		Ajodhya.		...	...	...	...	...	...	...	...
86		Tanda ...	18,258	...	...	...	...	...	...	35	1.92
87	Gonda ...	Gonda ...	13,228	1	.07	...	...	2	.15	8	.60
88		Balrampur...	16,131	...	...	19	1.18	31	1.92	51	3.16
89	Bahraich ...	Bahraich ..	27,371	...	...	...	...	19	.69	9	.33
90		Nanpara ...	10,924	...	...	...	...	1	.09	6	.55
91	Bara Banki }	Nawabganj ..	12,369	...	...	...	...	185	14.96	2	.16
92		Rudauli ...	10,327	...	...	...	...	...	...	17	1.65
		Total of towns	3,032,984	63	.02	62	.02	33,338	10.99	3,478	1.15
		Total of rural districts.	42,342,803	1,181	.03	260	.01	45,557	1.07	4,335	.10
		Total for the Province.	45,375,787	1,244	.03	322	.01	78,895	1.74	7,813	.17

(b) Rates calculated on average population 13,454.

ANNUAL FORM No. VI (a).

population of 10,000 and upwards) and **districts** (exclusive of such towns)
during the year 1930—(concl'd.).

12		13		14		15		16	17			18	19
Diarrhoea.		Pneumonia		Phthisis.		Other respira- tory diseases.		Deaths from child birth.*	Deaths under one year.			Infant mort- ality rate.	Number.
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.		
63	1.95	7	.22	...	...	610	18.86	7	343	291	634	355.58	46
199	4.12	313	6.48	235	4.86	198	4.10	20	497	424	921	337.61	47
30	1.64	1	.05	15	.82	44	2.41	6	85	59	144	202.25	48
98	2.36	101	2.43	28	.67	110	2.65	16	438	422	860	351.16	49
285	1.46	999	5.12	827	4.24	883	4.53	93	1,524	1,297	2,821	301.81	50
32	2.14	..	..	..	..	92	6.15	14	157	102	259	300.81	51
181	1.24	192	1.32	372	2.55	891	6.12	53	1,104	835	1,939	262.84	52
50	.99	78	1.54	31	.61	113	2.24	15	635	569	1,204	377.31	53
76	6.05	...	...	...	...	159	12.66	5	168	130	298	460.59	54
35	2.84	23	1.87	9	.73	40	3.25	6	92	81	173	305.11	55
10	.87	...	...	...	...	21	1.82	1	68	85	153	289.77	56
18	1.79	...	...	26	2.59	79	7.87	...	83	57	140	294.12	57
21	1.45	52	3.58	31	2.14	94	6.48	3	112	97	209	316.19	58
...	...	...	...	...	...	37	3.18	...	55	48	103	228.38	59
3	.15	...	...	...	...	54	2.70	3	59	62	121	300.25	60
498	2.55	104	.53	488	2.50	1,289	6.60	88	1,478	1,290	2,768	271.98	61
149	2.71	4	.07	16	.29	178	3.24	7	287	217	504	190.40	62
23	.71	24	.74	40	1.23	106	3.25	11	132	136	268	223.89	63
28	1.13	...	...	38	1.54	34	1.38	10	94	78	172	188.80	64
...	...	...	...	...	...	...	...	...	10	9	19	169.64	65
16	.88	...	...	...	...	...	...	...	36	24	60	130.15	66
30	2.40	...	...	5	.40	20	1.60	1	51	49	100	154.80	67
40	.79	1	.02	179	3.54	142	2.81	6	325	325	650	241.99	68
2	.11	4	.23	19	1.07	14	.79	1	44	37	81	189.69	69
8	.64	61	4.88	16	1.28	6	.48	4	59	42	101	223.95	70
26	1.75	1	.07	14	.95	34	2.30	1	67	54	121	217.62	71
11	.61	...	...	3	.17	52	2.89	1	71	57	128	178.77	72
...	...	92	6.84	17	1.26	22	1.63	3	34	31	65	200.62	73
48	4.54	...	...	3	.28	137	12.95	4	56	55	111	213.87	74
344	1.58	2,019	9.30	607	2.79	477	2.20	149	1,584	1,313	2,897	329.43	75
2	.18	...	...	...	...	12	1.07	2	62	35	97	204.64	76
12	.74	...	...	33	2.04	185	11.43	4	115	101	216	303.80	77
6	.52	...	...	3	.26	9	.78	...	68	62	130	234.23	78
...	...	...	...	...	...	...	...	...	60	49	109	194.64	79
49	2.66	...	...	13	.70	42	2.28	9	161	116	277	265.58	80
17	.91	...	...	...	...	9	.48	1	82	51	133	193.59	81
22	1.56	5	.35	...	...	41	2.91	...	148	127	275	358.54	82
20	1.39	...	...	2	.14	16	1.11	2	56	55	111	229.34	83
9	.73	4	.32	1	.08	11	.89	6	45	30	75	108.54	84
86	1.67	39	.76	32	.62	192	3.74	14	196	146	342	259.29	85
17	.93	...	...	42	2.30	30	1.64	2	137	111	248	277.09	86
2	.15	...	...	9	.68	24	1.81	...	110	96	206	318.88	87
20	1.24	22	1.36	13	.80	162	10.04	5	80	75	155	215.28	88
23	.84	8	.29	44	1.61	28	1.02	14	126	98	224	211.32	89
25	2.29	...	...	...	...	29	2.65	1	56	43	99	199.19	90
10	.81	...	...	2	.16	10	.81	1	46	46	92	177.61	91
7	.68	...	...	1	.10	57	5.52	4	68	57	125	262.60	92
5,755	1.90	7,625	2.51	5,021	1.65	11,731	3.87	1,159	20,590	17,662	38,252	253.97	
2,656	.06	713	.02	568	.01	9,133	.21	804	137,381	112,948	250,929	162.67	
8,411	.18	8,338	.18	5,589	.12	20,864	.46	1,963	158,571	130,610	289,181	170.79	

* NOTE.—By the term "Deaths from child-birth" is meant "deaths during or within 14 days of labour."

Paragraphs 2 and 3 of Chapter III.]

ANNUAL

Deaths registered from **cholera** in the districts of the

1		2		3		4						
Number.	District.	Circles of registration.		Villages.		January.	February.	March.	April.	May.		
		Number in each district.	Number from which deaths from cholera were reported.	Number in each district.	Number from which deaths from cholera were reported.							
MEERUT DIVISION.												
1	Dehra Dun ...	14	5	494	7	...	...	...	1	16
2	Saharanpur ...	30	12	1,618	12	...	1	1	7	18		
3	Muzaffarnagar ...	26	9	928	14	...	...	...	13	16
4	Meerut ...	45	9	1,534	10	...	1	...	...	...
5	Bulandshahr ...	34	11	1,417	16	...	1	...	...	20
AGRA DIVISION.												
6	Aligarh ...	37	11	1,748	21	...	...	...	...	...
7	Muttra ...	32	5	891	5	...	...	6	1	1
8	Agra ...	37	4	1,233	4	...	...	...	...	...
9	Mainpuri ...	23	6	1,368	10	...	...	...	...	...
10	Etah ...	31	12	1,551	16	...	...	4	6	9
ROHILKHAND DIVISION.												
11	Bareilly ...	31	28	2,196	98	...	1	...	...	...
12	Bijnor ...	31	24	2,154	61	1	...	2	8	20		
13	Budaun ...	28	16	1,659	66	...	...	5	1	8
14	Moradabad...	34	27	2,657	70	1	4	1	...	...
15	Shahjahanpur	23	19	2,388	114	...	...	...	2	10
16	Pilibhit ...	15	13	1,094	43	1	5	...	...	...
ALLAHABAD DIVISION.												
17	Farrukhabad ...	24	14	1,717	35	...	...	...	3	16
18	Etawah ...	25	8	1,487	12	...	...	...	2	...
19	Cawnpore ...	28	14	1,972	117	...	3	24	2	1		
20	Fatehpur ...	16	14	1,436	106	...	2	1	...	4		
21	Allahabad ...	35	31	3,864	379	1	136	137	263	254		
JHANSI DIVISION.												
22	Jhansi ...	35	23	1,323	69	...	1	19	35	...		
23	Jalaun ...	14	1	848	1	2	...	...	...	...
24	Hamirpur ...	23	10	798	39	...	...	...	13	...
25	Banda ...	24	19	1,231	116	...	54	7	26	90		
BENARES DIVISION.												
26	Benares ...	19	16	2,117	95	...	47	57	161	68		
27	Mirzapur ...	24	17	3,142	162	2	2	101	405	309		
28	Jaunpur ...	22	18	3,169	136	...	1	9	271	208		
29	Ghazipur ...	22	19	2,390	119	...	7	23	68	104		
30	Ballia ...	19	14	1,740	27	...	10	6	6	9		
GORAKHPUR DIVISION.												
31	Gorakhpur ...	47	44	7,208	1,012	1	17	140	2,839	4,854		
32	Basti ...	25	25	6,921	723	31	67	45	1,957	1,514		
33	Azamgarh ...	34	23	4,809	152	2	16	8	137	146		
KUMAUN DIVISION.												
34	Naini Tal ...	19	14	1,650	56	...	1	...	3	4		
35	Almora ...	6	2	5,082	2	...	...	...	...	...
36	Gathwal ...	15	4	3,605	15	...	...	...	...	18
LUCKNOW DIVISION.												
37	Lucknow ...	15	11	937	31	1	1	6	30	16		
38	Unao ...	19	7	1,715	24	...	...	2	13	14
39	Rae Bareli...	14	13	1,748	218	1	3	15	80	252		
40	Sitapur ...	24	24	2,311	602	...	2	3	1	9		
41	Hardoi ...	25	20	1,897	173	...	...	...	...	...
42	Kheri ...	18	18	1,731	178	...	...	1	83	125
FYZABAD DIVISION.												
43	Fyzabad ...	23	16	2,951	163	59	16	22	105	226		
44	Gonda ...	25	23	2,910	513	21	14	50	1,206	1,765		
45	Bahraich ...	19	17	1,894	481	...	16	149	786	457		
46	Sultanpur ...	14	14	2,490	232	...	2	8	169	220		
47	Partabgarh ...	16	15	2,188	250	1	3	29	245	328		
48	Bara Banki ...	23	18	2,070	182	...	3	31	149	454		
Total for the province		1,182	737	106,281	6,997	125	437	912	9,097	11,583		

FORM No. VII.

United Provinces during each month of the year 1930.

5							6			7			8	9
June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of popu- lation.			Mean ratio per 1,000 of previous five years.	Number.
							Male.	Female.	Total.	Male.	Female.	Total.		
14	..	3	3	..	..	..	25	12	37	·19	·14	·17	·13	1
8	2	9	11	2	..	2	47	14	61	·09	·03	·06	·07	2
12	9	8	7	4	..	..	38	31	69	·09	·09	·09	·02	3
8	..	45	13	..	..	..	27	40	67	·03	·06	·04	·14	4
51	4	7	3	..	..	..	45	41	86	·08	·08	·08	·38	5
1	..	41	90	3	..	..	85	50	135	·15	·10	·13	·38	6
..	..	16	5	..	..	..	15	14	29	·04	·05	·05	·17	7
..	..	1	2	4	..	..	1	6	7	..	·01	·01	·12	8
1	6	13	54	1	1	..	47	29	76	·11	·09	·10	·12	9
8	1	35	25	1	..	2	56	35	91	·12	·09	·11	·18	10
..	7	387	1,181	784	362	86	1,402	1,406	2,808	2·57	3·00	2·77	·40	11
12	39	223	146	29	8	..	261	227	488	·67	·65	·66	·13	12
24	3	9	66	57	14	4	110	81	191	·21	·18	·19	·05	13
2	23	203	157	18	1	..	219	191	410	·34	·34	·34	·10	14
1	11	117	704	397	155	3	714	686	1,400	1·58	1·78	1·67	·64	15
..	2	37	258	157	12	1	222	251	473	·97	1·24	1·09	1·47	16
40	10	84	51	8	..	1	111	102	213	·24	·26	·25	·15	17
..	8	93	68	3	..	..	91	83	174	·22	·25	·24	·18	18
2	1	1	454	364	65	8	522	403	925	·82	·79	·80	·25	19
88	101	38	222	120	45	2	326	297	623	·95	·95	·95	·12	20
825	368	286	167	87	13	9	1,336	1,210	2,546	1·85	1·77	1·81	·40	21
..	104	260	309	92	31	1	417	435	852	1·32	1·49	1·40	·96	22
..	..	..	..	..	..	..	1	1	2	..	..	..	·69	23
..	4	158	691	108	..	..	524	450	974	2·21	1·97	2·09	·79	24
564	225	97	84	40	..	..	655	532	1,187	2·18	1·85	2·02	·51	25
119	85	48	25	1	..	..	300	311	611	·61	·67	·64	·86	26
80	49	99	13	..	..	..	560	500	1,060	1·55	1·38	1·46	1·08	27
95	58	9	7	..	..	2	348	312	660	·60	·54	·57	1·11	28
250	49	67	74	30	14	..	353	333	686	·88	·87	·88	1·35	29
25	30	47	21	3	3	..	83	77	160	·19	·19	·19	1·81	30
3,030	1,391	699	399	262	66	23	6,647	7,074	13,721	4·01	4·40	4·20	·86	31
2,016	1,115	506	155	99	24	15	3,757	3,787	7,544	3·81	4·03	3·92	1·28	32
72	79	68	83	50	28	1	352	33	690	·45	·45	·45	·72	33
2	15	207	79	12	..	..	157	166	323	·98	1·43	1·17	·34	34
1	..	..	4	..	..	..	2	3	5	·01	·01	·01	·65	35
15	38	42	..	..	..	..	52	61	113	·22	·24	·23	·92	36
69	11	19	29	36	7	10	124	111	235	·31	·33	·32	·25	37
38	16	3	9	7	8	..	41	69	110	·09	·18	·13	·15	38
815	165	136	79	..	2	11	839	720	1,559	1·77	1·56	1·66	·39	39
33	272	722	1,075	439	62	21	1,279	1,360	2,639	2·20	2·68	2·42	·11	40
25	18	294	606	382	36	..	686	675	1,361	1·17	1·35	1·25	·22	41
77	111	390	655	512	196	58	1,063	1,145	2,208	2·19	2·67	2·42	·57	42
305	224	36	10	..	3	3	547	462	1,009	·93	·79	·86	2·04	43
1,079	926	963	181	39	12	..	3,207	3,049	6,256	4·26	4·23	4·25	·92	44
145	56	135	186	83	..	..	1,099	914	2,013	1·98	1·79	1·89	·36	45
458	75	41	9	71	158	132	712	631	1,343	1·44	1·24	1·34	1·59	46
517	49	49	64	43	31	13	701	671	1,372	1·68	1·53	1·60	1·04	47
351	251	330	120	33	7	3	871	861	1,732	1·62	1·75	1·68	·51	48
11,278	6,011	7,081	8,654	4,381	1,364	411	31,077	30,257	61,334	1·31	1·40	1·35	·61	

Paragraphs 10 and 11 of Chapter III.]

ANNUAL

Deaths registered from **small-pox** in the districts

Number.	District.	3		4		5							
		Circles of registration.		Villages.		January.	February.	March.	April.	May.	June.	July.	
		Number in each district.	Number from which deaths from small-pox were reported.	Number in each district.	Number from which deaths from small-pox were reported.								
MEERUT DIVISION.													
1	Dehra Dun ...	14	3	494	6	...	...	1	2	1	7	8
2	Saharanpur ...	30	24	1,618	32	25	14	8	17	42	13	22	
3	Muzaffarnagar ...	26	15	928	20	15	13	19	18	23	15	7	
4	Meerut ..	45	23	1,534	44	151	25	49	54	42	34	12	
5	Bulandshahr ...	34	22	1,417	67	143	49	86	137	43	...	...
AGRA DIVISION.													
6	Aligarh ...	37	14	1,748	18	26	14	12	10	15	4	1	
7	Muttra ...	32	21	891	39	31	37	38	59	28	12	9	
8	Agra ...	37	15	1,233	15	17	6	8	16	20	20	2	
9	Mainpuri ...	23	13	1,368	40	18	21	18	32	32	2	7	
10	Etah ...	31	18	1,551	40	30	30	6	6	39	27	1	
ROHILKHAND DIVISION.													
11	Bareilly ...	3	25	2,196	26	120	29	72	95	95	60	40	
12	Bijnor ...	31	28	2,154	83	167	53	39	129	136	76	61	
13	Budaun ...	28	22	1,659	238	194	214	170	174	156	97	27	
14	Moradabad ...	34	25	2,657	155	133	85	111	214	111	82	38	
15	Shahjahanpur ...	23	12	2,388	31	33	15	4	17	34	14	8	
16	Pilibhit ...	15	11	1,094	11	34	18	25	74	66	21	7	
ALLAHABAD DIVISION.													
17	Farrukhabad ...	24	20	1,717	44	41	32	26	76	46	35	13	
18	Etawah ...	25	15	1,487	87	52	22	25	73	18	21	14	
19	Cawnpore ...	28	8	1,972	27	22	11	9	39	5	14	4	
20	Fatehpur ...	16	9	1,436	28	13	20	18	15	9	20	10	
21	Allahabad ...	35	26	3,864	80	25	29	30	20	51	11	17	
JHANSI DIVISION.													
22	Jhansi ...	35	25	1,323	46	10	14	29	34	47	27	28	
23	Jalaun ...	14	11	848	49	27	41	60	124	65	43	1	
24	Hamirpur ...	23	3	798	4	...	...	16	10	10	9	...
25	Banda ...	24	11	1,231	13	25	31	22	22	4	10	4	
BENARES DIVISION.													
26	Benares ...	19	14	2,117	188	38	26	65	129	134	110	76	
27	Mirzapur ...	24	11	3,142	24	6	3	3	1	4	1	8	
28	Jaunpur ...	22	18	3,169	71	2	4	9	36	62	64	35	
29	Ghazipur ...	22	21	2,390	133	14	26	38	112	130	185	232	
30	Ballia ...	19	14	1,740	55	12	21	11	18	14	14	27	
GORAKHPUR DIVISION.													
31	Gorakhpur ...	47	28	7,208	71	1	10	19	53	60	53	28	
32	Basti ...	25	11	6,921	32	1	5	1	31	28	39	12	
33	Azamgarh ...	34	25	4,809	148	14	29	48	78	83	69	60	
KUMAUN DIVISION.													
34	Naini Tal .	19	11	1,650	16	...	1	4	7	24	7	10	
35	Almora ...	6	4	5,082	36	1	...	4	4	11	16	26	
36	Garhwal ...	15	6	3,605	12	1	2	...	2	6	4	...	
LUCKNOW DIVISION.													
37	Lucknow ...	15	6	937	7	5	1	4	7	7	8	7	
38	Unao ...	19	2	1,715	3	...	...	4	9	5	7	7
39	Rae Bareli ...	14	7	1,748	10	5	1	...	1	4	6	2	
40	Sitapur ...	24	7	2,311	8	3	...	7	19	6	16	9	
41	Hardoi ...	25	17	1,897	40	18	41	5	5	13	17	22	
42	Kheri ...	18	8	1,731	13	...	1	1	4	6	2	1	
FYZABAD DIVISION.													
43	Fyzabad ...	23	13	2,951	53	4	2	10	64	71	70	70	
44	Gonda ...	25	7	2,910	11	3	4	10	11	1	6	3	
45	Bahraich ...	19	4	1,894	6	...	6	...	...	...	...	...
46	Sultanpur ...	14	10	2,490	30	10	1	...	18	5	30	9	
47	Partabgarh ...	16	11	2,188	31	8	1	4	12	19	23	12	
48	Bara Banki ...	23	5	2,070	8	6	1	...	3	9	13	...	
Total for the Province		1,182	679	106,281	2,254	1,504	1,009	1,148	2,091	1,840	1,434	997	

FORM No. VIII.

of the United Provinces during each month of the year 1930.

August.	September.	October.	November.	December.	6			7		8			9	10
					Total.			Number of deaths among children.		Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	Number.
					Male.	Female.	Total.	Under one year.	One to 10 years.	Male.	Female.	Total.		
2	1	...	...	2	16	8	24	4	5	·12	·09	·11	·16	1
8	...	...	...	2	79	72	151	70	81	·15	·17	·16	·11	2
2	1	2	29	45	91	98	189	65	55	·21	·27	·24	·17	3
5	...	7	...	...	204	175	379	116	223	·25	·25	·25	·23	4
...	...	...	...	...	264	194	458	162	225	·47	·38	·43	·48	5
...	...	...	...	...	42	40	82	17	56	·07	·08	·08	·37	6
...	...	...	...	4	112	106	218	48	136	·33	·38	·35	·39	7
...	...	...	...	...	42	47	89	51	38	·08	·11	·10	·35	8
3	...	...	...	...	74	59	133	46	47	·18	·17	·18	·19	9
...	2	...	1	...	88	54	142	18	46	·19	·14	·17	·38	10
16	16	1	...	...	274	270	544	109	95	·50	·57	·54	·12	11
18	10	3	3	8	377	326	703	389	288	·97	·93	·95	·64	12
7	26	...	...	1	554	512	1,066	477	589	1·05	1·14	1·09	·27	13
12	4	4	9	38	425	415	841	160	295	·66	·74	·70	·36	14
5	2	1	...	...	77	56	133	43	62	·17	·14	·16	·14	15
3	1	1	4	1	129	126	255	65	144	·56	·62	·59	·10	16
1	1	1	...	3	139	136	275	56	204	·30	·35	·32	·15	17
6	5	...	...	1	121	116	237	91	110	·30	·35	·32	·12	18
...	...	...	...	...	53	51	104	24	27	·08	·10	·09	·09	19
8	...	...	...	...	63	50	113	45	46	·18	·16	·17	·04	20
30	16	11	21	5	138	128	266	63	45	·19	·19	·19	·20	21
16	5	2	2	4	111	107	218	48	140	·35	·37	·36	·15	22
1	4	2	1	...	191	178	369	30	339	·89	·93	·91	·06	23
...	...	...	...	...	26	19	45	18	25	·11	·08	·10	·05	24
2	1	...	1	2	55	69	124	58	66	·18	·24	·21	·07	25
22	1	3	8	19	334	297	631	121	230	·68	·64	·66	·29	26
8	1	1	1	8	30	15	45	4	40	·08	·04	·06	·23	27
17	4	10	4	13	129	131	260	10	65	·22	·22	·22	·17	28
75	32	18	24	29	445	470	915	112	195	1·11	1·23	1·17	·32	29
3	10	1	1	1	73	60	133	102	31	·17	·15	·16	·23	30
15	2	3	8	9	140	121	261	207	54	·08	·07	·08	·17	31
1	...	5	1	4	59	69	128	59	47	·06	·07	·07	·06	32
35	8	3	3	21	225	226	451	72	379	·29	·30	·29	·31	33
6	1	1	4	3	33	35	68	2	66	·20	·30	·24	·21	34
6	5	3	1	3	45	35	80	1	19	·17	·13	·15	·15	35
1	...	2	1	1	6	14	20	4	4	·02	·05	·04	·07	36
2	...	...	...	...	25	16	41	11	26	·06	·05	·06	·47	37
2	2	1	...	...	15	22	37	...	37	·03	·06	·04	·11	38
3	2	1	...	...	9	16	25	6	19	·02	·03	·03	·15	39
4	1	4	...	1	33	37	70	29	34	·06	·07	·06	·05	40
2	...	1	1	2	72	55	127	31	89	·12	·11	·12	·14	41
1	1	...	...	...	7	10	17	12	3	·01	·02	·02	·07	42
21	7	4	2	12	171	166	337	94	48	·29	·28	·29	·23	43
1	...	...	...	...	19	20	39	25	13	·02	·03	·03	·07	44
...	...	...	...	17	11	12	23	...	6	·02	·02	·02	·08	45
8	1	...	...	...	44	38	82	...	82	·09	·07	·08	·07	46
2	5	...	1	...	52	35	87	20	67	·12	·08	·10	·14	47
2	1	...	1	...	21	15	36	3	20	·04	·03	·03	·03	48
382	179	96	132	259	5,743	5,328	11,071	3,198	4,961	·24	·24	·24	·19	

Paragraphs 15 and 16 of Chapter III.]

ANNUAL

Deaths registered from **fevers** in the **districts** of the United

1	2	3		4						
Number.	District.	Circles of re- gistration.		Villages.		January.	Feb- ruary.	March.	April.	May.
		Number in each district.	Number from which deaths from fevers were re- ported.	Number in each district.	Number from which deaths from fevers were re- ported.					
MEERUT DIVISION.										
1	Dehra Dun ..	14	14	494	460	227	218	183	201	419
2	Saharanpur ...	30	30	1,618	1,065	2,165	1,734	1,580	2,461	3,027
3	Muzaffarnagar ...	26	26	928	928	1,678	1,194	1,102	1,560	2,224
4	Meerut ...	45	45	1,534	1,366	3,128	2,497	2,477	2,601	3,590
5	Bulandshahr ...	34	34	1,417	1,296	2,445	1,743	1,896	2,569	3,160
AGRA DIVISION.										
6	Aligarh	37	36	1,748	1,747	1,562	1,436	1,485	1,934	2,622
7	Muttra	32	32	891	891	1,083	914	857	1,134	1,112
8	Agra	37	37	1,233	1,233	1,542	1,400	1,366	1,694	2,072
9	Mainpuri	23	23	1,368	958	1,135	1,107	975	1,476	1,399
10	Etah	31	31	1,551	1,478	1,040	828	1,032	1,429	1,541
ROHILKHAND DIVISION.										
11	Bareilly	31	31	2,196	2,196	2,854	2,226	2,090	3,023	3,395
12	Bijnor	31	31	2,154	1,460	1,411	921	1,067	1,684	2,689
13	Budaun	28	28	1,659	1,659	1,969	1,779	1,828	2,885	2,417
14	Moradabad	34	34	2,657	1,818	2,428	2,069	1,937	3,279	3,683
15	Shahjahanpur	23	23	2,388	1,795	1,602	1,170	1,172	1,835	2,781
16	Pilibhit	15	15	1,094	1,094	1,422	1,040	784	1,304	1,375
ALLAHABAD DIVISION.										
17	Farrukhabad	24	24	1,717	1,221	1,289	1,047	1,243	1,723	2,076
18	Etawah	25	25	1,487	1,274	834	1,178	1,178	1,650	1,440
19	Cawnpore	28	28	1,972	783	1,234	1,321	1,365	2,162	1,801
20	Fatehpur	16	16	1,436	819	934	710	588	898	899
21	Allahabad	35	35	3,864	1,823	1,365	1,395	1,501	1,715	1,301
JHANSI DIVISION.										
22	Jhansi	35	35	1,323	1,323	1,445	939	1,476	1,989	1,705
23	Jalaun	14	14	848	811	800	757	468	1,009	774
24	Hamirpur	23	23	798	738	910	762	722	1,087	1,156
25	Banda	24	24	1,231	1,135	982	898	946	1,046	779
BENARES DIVISION.										
26	Benares... ..	19	19	2,117	1,349	1,193	987	1,218	1,467	1,408
27	Mirzapur	24	24	3,142	2,246	1,003	728	1,006	1,050	1,117
28	Jaunpur	22	22	3,169	2,723	1,112	997	848	1,272	1,256
29	Ghazipur	22	22	2,390	2,389	849	652	658	892	940
30	Ballia	19	19	1,740	926	776	454	749	742	654
GORAKHPUR DIVISION.										
31	Gorakhpur	47	47	7,208	6,991	4,875	3,537	3,498	4,131	4,634
32	Basti	25	25	6,921	5,358	2,512	1,665	2,084	2,252	2,672
33	Azamgarh	34	34	4,809	4,057	1,775	1,413	1,604	2,148	2,878
KUMAUN DIVISION.										
34	Naini Tal	19	19	1,650	1,649	771	503	571	880	933
35	Almora	6	6	5,082	1,984	672	624	663	910	1,513
36	Garhwal... ..	15	15	3,605	2,228	652	627	627	810	1,388
LUCKNOW DIVISION.										
37	Lucknow	15	15	937	636	1,167	935	1,004	1,179	1,331
38	Unao	19	19	1,715	1,223	1,121	1,000	870	1,129	1,117
39	Rae Bareli	14	14	1,748	1,737	1,179	1,115	1,050	1,448	1,416
40	Sitapur	24	24	2,311	2,311	1,790	1,132	1,120	1,285	1,607
41	Hardoi	25	25	1,897	1,864	1,298	1,302	1,148	1,399	1,415
42	Kheri	18	18	1,731	1,536	2,174	1,216	1,201	1,355	1,437
FYZABAD DIVISION.										
43	Fyzabad... ..	23	23	2,951	2,278	1,629	1,223	1,096	1,357	1,507
44	Gonda	25	25	2,910	1,562	1,547	1,175	1,333	1,673	1,726
45	Bahraich	19	19	1,894	108	1,810	1,549	1,408	1,894	2,317
46	Sultanpur	14	14	2,490	1,627	1,460	960	1,291	1,437	1,734
47	Partabgarh	16	16	2,188	802	945	1,002	846	1,324	1,276
48	Bara Banki	23	23	2,070	1,666	1,421	1,406	1,148	1,427	1,704
Total for the Province		1,182	1,181	106,281	80,621	71,215	57,485	58,368	77,809	87,417

FORM No. IX.

Provinces during each month of the year 1930.

5							6			7			8	9
June.	July.	August.	Sep-tem-ber.	Octo-ber.	Novem-ber.	Decem-ber.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years	Number.
							Male.	Female.	Total.	Male.	Female.	Total.		
424	259	268	227	294	254	241	1,715	1,500	3,215	13.38	17.84	15.11	14.56	1
3,296	2,141	1,838	1,924	1,972	2,053	2,261	13,793	12,659	26,452	26.73	30.03	28.22	27.55	2
1,987	1,796	1,240	1,166	1,186	1,254	1,315	9,649	8,053	17,702	22.22	22.37	22.29	23.34	3
3,777	2,396	2,366	2,291	2,105	2,484	1,962	16,854	14,820	31,674	20.81	21.51	21.12	25.07	4
3,451	2,249	2,125	2,049	2,210	2,583	2,370	15,148	13,702	28,850	26.93	27.11	27.05	26.57	5
2,356	1,605	1,311	1,926	1,958	2,220	2,156	11,951	10,620	22,571	20.77	21.83	21.26	21.21	6
1,104	817	811	1,505	1,793	1,630	1,546	7,729	6,577	14,306	22.65	23.66	23.11	16.58	7
2,211	1,233	973	1,456	1,242	1,483	1,268	9,665	8,275	17,940	19.01	19.92	19.41	18.29	8
1,369	1,185	981	987	1,362	1,382	1,313	8,309	6,862	14,671	20.00	18.93	19.61	20.32	9
1,741	1,461	1,122	1,327	1,292	1,137	1,556	8,450	7,056	15,506	18.81	18.54	18.69	18.47	10
3,125	3,390	2,372	3,032	3,871	4,829	4,149	20,231	18,125	38,356	37.13	38.65	37.83	24.75	11
2,476	1,260	1,550	1,647	1,679	1,642	2,160	10,652	9,534	20,186	27.34	27.20	27.27	26.00	12
2,675	2,365	2,244	2,376	2,182	2,246	2,062	14,446	12,582	27,028	27.37	28.11	27.71	23.29	13
3,781	2,371	2,415	3,142	2,855	2,912	2,790	17,197	16,465	33,662	26.91	29.42	28.08	27.11	14
1,919	2,003	1,849	2,293	2,453	2,676	2,511	13,183	11,081	24,264	29.11	28.69	28.92	24.22	15
1,741	1,023	1,035	1,111	1,422	1,763	1,381	8,374	7,032	15,406	36.55	34.73	35.69	28.54	16
2,112	1,781	1,440	1,652	1,711	1,670	1,651	10,452	8,943	19,395	22.29	23.07	22.64	21.31	17
1,537	1,231	879	1,147	938	1,291	1,182	7,899	6,586	14,485	19.54	20.00	19.75	16.05	18
2,338	1,745	1,427	1,767	1,954	1,586	1,514	11,187	9,027	20,214	17.55	17.65	17.60	13.95	19
1,227	852	713	936	1,225	1,380	1,295	6,092	5,565	11,657	17.84	17.90	17.87	10.42	20
1,694	1,715	1,737	1,914	2,117	2,315	2,477	11,346	9,900	21,246	15.76	16.11	15.93	12.53	21
2,376	1,706	2,020	2,499	2,582	2,145	1,491	11,379	10,994	22,373	36.06	37.79	36.89	21.79	22
1,030	924	529	993	1,056	1,155	626	5,416	4,705	10,121	25.43	24.50	24.96	15.37	23
1,607	1,345	1,304	2,080	2,070	1,487	958	8,151	7,337	15,488	34.37	32.10	33.26	17.50	24
1,524	1,056	1,003	1,438	1,971	1,930	1,616	8,159	7,030	15,189	27.11	24.49	25.83	13.84	25
1,689	1,215	1,654	1,680	1,561	1,685	1,481	8,629	8,609	17,238	17.71	18.52	18.11	16.97	26
1,173	1,206	1,054	1,010	1,395	1,326	1,289	6,877	6,480	13,357	19.01	17.87	18.44	16.36	27
1,547	1,370	1,376	1,307	1,314	1,606	1,813	8,482	7,336	15,818	14.76	12.63	13.69	13.27	28
1,105	1,150	1,091	1,291	1,226	1,518	1,335	6,777	5,930	12,707	16.98	15.51	16.26	13.53	29
988	1,091	874	1,119	954	987	988	5,600	4,776	10,376	13.13	11.81	12.49	12.52	30
4,524	4,549	4,657	4,540	5,382	5,297	5,246	30,096	24,774	54,870	18.14	15.40	16.80	13.97	31
2,342	2,218	2,461	1,816	2,046	2,531	2,289	14,206	12,682	26,888	14.43	13.48	13.97	14.96	32
2,540	1,973	2,002	2,119	2,347	2,712	2,434	13,849	12,096	25,945	17.85	16.08	16.93	14.99	33
804	502	515	589	649	771	737	4,361	3,864	8,225	27.12	33.29	29.71	27.37	34
1,576	1,294	830	666	844	735	628	5,475	5,480	10,955	20.64	20.64	20.66	19.20	35
1,321	1,180	849	777	628	630	693	5,077	5,105	10,182	21.80	20.23	20.98	22.33	36
1,250	785	1,073	2,124	2,665	2,376	1,621	9,229	8,281	17,510	23.51	24.96	24.17	16.41	37
1,261	1,357	1,088	1,119	2,483	1,962	1,901	8,894	7,514	16,408	20.51	19.49	20.03	15.50	38
1,373	1,159	1,162	1,240	1,521	1,988	2,027	8,949	7,729	16,678	18.85	16.74	17.81	13.58	39
2,370	2,296	1,916	2,141	2,189	2,254	2,423	12,127	10,396	22,523	20.85	20.47	20.67	18.19	40
2,047	2,005	1,852	2,340	3,436	3,136	2,444	13,086	10,736	23,822	22.32	21.55	21.97	17.01	41
1,656	1,899	1,791	1,629	1,765	2,388	2,142	11,325	9,267	20,662	23.49	21.63	22.62	21.83	42
1,841	1,965	1,587	1,219	1,308	1,422	1,946	9,717	8,383	18,100	16.50	14.37	15.44	15.95	43
1,842	1,831	1,594	1,547	2,102	2,043	1,679	11,034	9,058	20,092	14.65	12.58	13.64	12.96	44
2,520	1,554	1,464	1,559	1,597	1,673	1,886	11,273	9,958	21,231	20.33	19.49	19.93	16.75	45
2,281	1,784	1,337	1,612	1,675	1,970	1,720	10,394	8,867	19,261	21.01	17.41	19.18	18.18	46
1,381	1,150	1,236	1,210	1,444	1,606	1,779	8,239	6,900	15,199	19.74	15.90	17.77	14.62	47
2,312	2,288	2,039	2,575	1,858	2,283	2,004	12,141	10,324	22,465	22.61	20.94	21.81	16.73	48
94,621	77,730	71,054	80,114	87,889	92,411	86,356	5,03,334	439,135	942,469	21.11	20.34	20.77	18.10	

Paragraphs 22 and 23 of Chapter III.]

ANNUAL

Deaths registered from **dysentery and diarrhoea** in the districts

1	2		3		4						
Number.	District.		Circles of registration.		Villages.		January.	February.	March.	April.	May.
			Number in each district.	Number from which deaths from dysentery and diarrhoea were reported.	Number in each district.	Number from which deaths from dysentery and diarrhoea were reported.					
	MEERUT DIVISION.										
1	Dehra Dun	...	14	7	494	21	15	7	7	9	38
2	Saharanpur	...	30	19	1,618	23	15	6	11	51	74
3	Muzaffarnagar	...	26	18	928	20	14	9	9	17	32
4	Meerut	...	45	21	1,534	32	7	10	10	24	19
5	Bulandshahr	...	34	26	1,417	44	20	6	15	43	25
	AGRA DIVISION.										
6	Aligarh	...	37	13	1,748	14	30	19	33	81	82
7	Muttra	...	32	25	891	33	21	12	10	34	28
8	Agra	...	37	10	1,233	10	21	15	24	41	38
9	Mainpuri	...	23	5	1,368	5	..	..	1	2	1
10	Etah	...	31	19	1,551	24	17	8	5	20	10
	ROHILKHAND DIVISION.										
11	Bareilly	...	31	18	2,196	18	11	5	4	15	4
12	Bijnor	...	31	21	2,154	24	11	12	9	37	38
13	Budaun	...	28	16	1,659	18	6	4	15	26	16
14	Moradabad	...	34	30	2,657	81	53	30	92	135	134
15	Shahjahanpur	...	23	7	2,388	8	4	1	3	8	11
16	Pilibhit	...	15	9	1,094	9	8	7	11	16	16
	ALLAHABAD DIVISION.										
17	Farrukhabad	...	24	10	1,717	12	10	6	13	27	23
18	Etawah	...	25	7	1,487	7	3	4	12	18	8
19	Cawnpore	...	28	6	1,972	7	14	22	36	38	26
20	Fatehpur	...	16	11	1,436	20	6	3	2	7	10
21	Allahabad	...	35	31	3,864	32	17	16	21	38	27
	JHANSI DIVISION.										
22	Jhansi	...	35	21	1,323	35	8	8	18	12	11
23	Jalaun	...	14	9	848	11	1	..	3	6	4
24	Hamirpur	...	23	7	798	9	2	2	1	2	1
25	Banda	...	24	10	1,231	14	4	4	1	..	1
	BENARES DIVISION.										
26	Benares	...	19	3	2,117	3	50	37	73	66	47
27	Mirzapur	...	24	7	3,142	8	8	10	10	23	29
28	Jaunpur	...	22	9	3,169	11	5	6	3	5	6
29	Ghazipur	...	22	11	2,390	13	5	7	1	7	5
30	Ballia	...	19	18	1,740	42	23	18	19	21	28
	GORAKHPUR DIVISION.										
31	Gorakhpur	...	47	39	7,208	86	22	15	16	42	37
32	Basti	...	25	16	6,921	28	6	2	7	12	17
33	Azamgarh	...	34	26	4,809	70	9	9	14	20	28
	KUMAUN DIVISION.										
34	Naini Tal	...	19	14	1,650	52	13	7	6	24	25
35	Almora	...	6	6	5,082	273	41	32	37	82	165
36	Garhwal	...	15	13	3,605	672	71	63	67	177	326
	LUCKNOW DIVISION.										
37	Lucknow	...	15	9	937	15	28	24	27	50	84
38	Unao	...	19	8	1,715	15	..	3	1	3	4
39	Rae Bareli	...	14	11	1,748	42	7	6	4	4	4
40	Sitapur	...	24	12	2,311	15	2	3	3	10	10
41	Hardoi	...	25	15	1,897	25	13	4	5	11	8
42	Kheri	...	18	12	1,731	20	5	4	4	7	12
	FYZABAD DIVISION.										
43	Fyzabad	...	23	16	2,951	30	12	23	24	39	36
44	Gonda	...	25	9	2,910	9	1	..	3	6	10
45	Bahraich	...	19	3	1,894	3	2	6	4	26	85
46	Sultanpur	...	14	10	2,490	38	2	5	4	13	12
47	Partabgarh	...	16	8	2,188	9	1	5	4	3	2
48	Bara Banki	...	23	14	2,070	29	7	3	5	7	13
	Total for the Province...		1,182	665	106,281	2,039	651	508	707	1,365	1,670

FORM No. X.

of the United Provinces during each month of the year 1930.

5							6			7			8	9
June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	Number.
							Male.	Female.	Total.	Male.	Female.	Total.		
37	19	26	13	17	23	9	123	97	220	·96	1·15	1·04	1·09	1
46	39	51	45	38	27	24	225	202	427	·44	·50	·45	·35	2
24	17	15	17	10	9	10	97	86	183	·22	·24	·23	·18	3
16	22	52	55	57	22	30	182	142	324	·21	·21	·22	·18	4
55	27	60	43	27	24	20	205	160	365	·36	·32	·34	·38	5
70	47	136	148	101	82	70	431	468	899	·75	·96	·85	·68	6
28	26	64	73	46	56	48	236	210	446	·69	·75	·72	·54	7
30	50	112	121	88	59	58	343	314	657	·67	·75	·71	·52	8
2	1	2	5	2	1	3	10	10	20	·02	03	·03	·02	9
9	10	26	33	20	22	17	102	95	197	·23	·25	·24	·29	10
10	10	32	45	25	88	25	152	122	274	·28	·26	·27	·17	11
28	29	53	53	41	16	19	181	165	346	·46	·47	·47	·44	12
4	8	32	27	14	14	11	91	86	177	·17	·19	·18	·20	13
99	105	187	229	101	61	68	654	640	1,294	1·02	1·14	1·08	·75	14
10	14	28	73	44	31	20	115	132	247	·25	·34	·29	·25	15
11	9	26	42	30	20	14	106	104	210	·46	·51	·49	·25	16
13	26	47	64	48	46	31	195	159	354	·41	·41	·41	·28	17
4	13	21	16	5	12	11	63	64	127	·15	·19	·17	·17	18
15	18	89	78	54	55	50	244	251	495	·38	·49	·43	·29	19
3	5	16	21	23	38	24	84	74	158	·24	·24	·24	·07	20
40	33	50	52	55	33	35	236	181	417	·33	·26	·30	·22	21
14	34	96	90	45	27	16	188	191	379	·59	·65	·62	·32	22
2	4	10	24	28	18	8	52	56	108	·24	·29	·27	·11	23
3	4	10	26	21	7	3	27	55	82	·11	·24	·18	·07	24
...	3	14	29	9	5	3	31	42	73	·10	·14	·12	·05	25
67	59	112	92	79	65	49	452	344	796	·93	·74	·84	·96	26
11	16	29	21	14	22	21	109	105	214	·30	·28	·29	·20	27
5	9	15	17	9	11	9	58	42	100	·10	·07	·09	·06	28
3	11	24	8	8	8	1	54	34	88	·13	·09	·11	·07	29
32	36	35	46	42	38	41	213	166	379	·50	·41	·45	·39	30
26	43	64	46	43	29	34	219	198	417	·13	·12	·13	·06	31
8	8	11	3	3	2	6	47	38	85	·05	·04	·04	·04	32
23	15	30	33	17	16	23	136	101	237	·17	·13	·15	·11	33
23	18	21	19	22	9	16	113	90	203	·70	·77	·73	·50	34
166	104	65	42	40	31	54	457	402	859	1·72	1·51	1·62	1·27	35
250	289	250	108	115	89	113	983	935	1,918	4·22	3·70	3·95	3·97	36
86	47	118	150	145	101	68	501	427	928	1·27	1·29	1·28	·88	37
5	3	13	16	19	10	7	48	36	84	·11	·09	·10	·06	38
8	9	13	13	7	16	24	61	54	115	·12	·12	·12	·05	39
8	18	30	18	13	9	14	68	70	138	·12	·13	·13	·09	40
9	8	23	40	35	30	17	118	85	203	·20	·17	·19	·10	41
5	5	7	10	3	9	3	39	35	74	·08	·08	·08	·05	42
23	19	18	26	45	26	21	179	133	312	·30	·23	·27	·21	43
5	14	31	19	14	5	17	57	68	125	·07	·09	·08	·03	44
32	8	21	17	16	15	4	118	118	236	·21	·23	·22	·05	45
12	12	7	13	5	5	2	53	39	92	·10	·08	·09	·09	46
...	1	2	2	...	1	1	13	9	22	·03	·02	·02	·02	47
8	12	11	15	20	10	9	66	54	120	·12	·11	·12	·08	48
1,388	1,337	2,205	2,196	1,663	1,353	1,181	8,535	7,689	16,224	·36	·36	·36	·28	

Deaths registered from respiratory diseases in the districts

1	2	3		4		5					
Number.	District.	Circles of registration.		Villages.		January.	February.	March.	April.	May.	June.
		Number in each district.	Number from which deaths from respiratory diseases were reported.	Number in each district.	Number from which deaths from respiratory diseases were reported.						
MEERUT DIVISION.											
1	Dehra Dun ...	14	11	494	27	48	47	68	57	64	48
2	Saharanpur ...	30	23	1,618	26	69	45	51	51	64	45
3	Muzaffarnagar ...	26	19	928	20	25	13	13	6	11	9
4	Meerut ...	45	31	1,534	41	121	81	72	71	63	66
5	Bulandshahr ...	34	27	1,417	42	98	55	39	63	47	36
AGRA DIVISION.											
6	Aligarh ...	37	15	1,748	15	73	73	87	107	91	45
7	Muttra ...	32	26	891	44	133	93	56	68	55	48
8	Agra ...	37	11	1,233	11	400	262	218	233	258	162
9	Mainpuri ...	23	6	1,363	6	5	2	4	9	3	2
10	Etah ...	31	24	1,551	39	27	22	18	21	24	22
ROHILKHAND DIVISION.											
11	Bareilly ...	31	18	2,196	18	81	126	117	115	132	77
12	Bijnor ...	31	22	2,154	25	43	30	28	31	22	17
13	Budaun ...	28	22	1,659	42	39	24	18	14	31	21
14	Moradabad ...	34	29	2,657	106	243	202	182	212	203	151
15	Shahjahanpur ...	23	8	2,388	8	38	70	40	35	61	42
16	Pilibhit ...	15	9	1,094	9	70	37	73	58	62	39
ALLAHABAD DIVISION.											
17	Farrukhabad ...	24	14	1,717	18	74	69	103	79	94	86
18	Etawah ...	25	13	1,487	13	38	31	30	30	43	17
19	Cawnpore ...	28	5	1,972	6	245	192	203	218	199	184
20	Fatehpur ...	16	11	1,436	26	17	21	18	8	23	23
21	Allahabad ...	35	29	3,864	48	147	172	162	142	137	124
JHANSI DIVISION.											
22	Jhansi ...	35	22	1,323	47	70	53	76	55	46	36
23	Jalaun ...	14	9	848	12	39	35	24	15	25	28
24	Hamirpur ...	23	21	798	603	279	227	178	198	208	334
25	Banda ...	24	7	1,231	7	14	9	6	1	5	8
BENARES DIVISION.											
26	Benares ...	19	6	2,117	9	174	151	138	164	162	149
27	Mirzapur ...	24	9	3,142	11	17	7	23	21	21	15
28	Jaunpur ...	22	8	3,169	10	24	19	17	32	26	8
29	Ghazipur ...	22	15	2,390	24	12	6	10	11	17	17
30	Ballia ...	19	12	1,740	12	9	13	21	25	15	16
GORAKHPUR DIVISION.											
31	Gorakhpur ...	47	32	7,203	63	34	39	44	28	36	46
32	Basti ...	25	18	6,921	37	13	11	15	8	11	45
33	Azamgarh ...	34	27	4,809	164	18	23	10	29	50	19
KUMAUN DIVISION.											
34	Naini Tal ...	19	18	1,650	46	45	43	29	34	45	36
35	Almora ...	6	6	5,082	199	68	49	45	50	81	50
36	Garhwal ...	15	15	3,605	203	48	43	32	41	64	36
LUCKNOW DIVISION.											
37	Lucknow ...	15	12	937	29	204	159	146	258	355	274
38	Unao ...	19	7	1,715	17	9	14	13	20	15	13
39	Rae Bareli ...	14	7	1,748	63	33	29	45	24	31	17
40	Sitapur ...	24	14	2,311	26	10	12	16	6	11	10
41	Hardoi ...	25	19	1,897	28	12	15	14	11	9	12
42	Kheri ...	18	14	1,731	45	9	4	4	6	8	6
FYZABAD DIVISION.											
43	Fyzabad ...	23	15	2,951	19	21	29	23	33	47	38
44	Gonda ...	25	16	2,910	17	28	28	33	41	39	24
45	Bahraich ...	19	2	1,894	2	8	9	12	18	18	5
46	Sultanpur ...	14	9	2,490	28	8	6	11	8	4	10
47	Partabgarh ...	16	10	2,183	19	2	5	3	10	11	8
48	Bara Banki ...	23	12	2,070	28	14	14	11	13	26	24
Total for the Province		1,182	735	106,281	2,363	3,256	2,479	2,499	2,788	3,053	2,549

FORM No. XI.

of the United Provinces during each month of the year 1930.

July.	August.	September.	October.	November.	December.	6			7			8	9
						Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	Number.
						Male.	Female.	Total.	Male.	Female.	Total.		
45	51	43	35	69	53	370	258	628	2.89	3.07	2.96	2.96	1
54	43	49	44	54	101	361	309	670	.70	.73	.71	.72	2
9	9	7	5	7	9	78	45	123	.18	.12	.15	.22	3
60	50	68	70	74	78	435	439	874	.54	.64	.58	.72	4
38	44	40	37	46	54	314	284	598	.56	.56	.56	.70	5
80	69	81	91	87	103	476	511	987	.83	1.05	.93	.86	6
41	51	55	51	67	87	428	377	805	1.25	1.36	1.30	1.34	7
148	184	255	221	267	269	1,537	1,340	2,877	3.02	3.22	3.11	2.59	8
..	1	1	..	1	4	18	14	32	.04	.04	.04	.05	9
22	13	14	19	22	29	160	93	253	.36	.24	.30	.30	10
72	126	97	91	126	100	614	646	1,260	1.13	1.38	1.24	.95	11
21	45	19	6	24	24	171	139	310	.44	.40	.42	.49	12
10	27	30	16	42	32	163	141	304	.31	.31	.31	.27	13
151	157	197	150	171	173	1,173	1,019	2,192	1.83	1.82	1.83	1.49	14
42	60	49	47	50	71	286	319	605	.63	.82	.72	1.00	15
39	78	63	61	46	48	368	306	674	1.61	1.51	1.56	1.19	16
54	95	70	46	67	90	464	463	927	.99	1.19	1.08	.95	17
16	27	15	25	20	36	186	142	328	.46	.43	.45	.58	18
203	239	269	260	306	340	1,369	1,489	2,858	2.15	2.91	2.49	2.32	19
4	30	15	12	28	35	145	89	234	.42	.29	.36	.17	21
108	120	123	138	132	124	811	818	1,629	1.12	1.20	1.16	.94	20
31	47	46	41	76	50	385	242	627	1.22	.83	1.03	.77	22
22	38	32	28	30	27	185	158	343	.87	.82	.84	.92	23
340	383	582	548	407	287	2,193	1,778	3,971	9.25	7.79	8.53	6.03	24
5	15	11	1	4	7	51	35	86	.17	.12	.15	.32	25
130	147	215	162	174	153	973	946	1,919	2.00	2.03	2.01	1.89	26
24	16	27	12	30	27	136	104	240	.38	.29	.33	.22	27
7	15	16	12	7	35	109	109	218	.19	.19	.19	.09	28
13	16	13	10	6	9	80	60	140	.20	.16	.18	.12	29
9	8	18	11	7	14	88	78	166	.21	.19	.20	.15	30
51	48	52	42	40	42	243	259	502	.15	.16	.15	.09	31
6	6	12	5	6	10	79	69	148	.08	.07	.07	.06	32
27	30	44	51	32	38	184	167	351	.24	.22	.23	.21	33
19	27	27	21	32	44	249	153	402	1.55	1.32	1.45	1.45	34
60	47	37	56	34	46	351	272	623	1.32	1.03	1.17	1.05	35
27	24	16	33	28	40	271	161	432	1.16	.64	.89	.70	36
220	327	415	396	226	277	1,728	1,529	3,257	4.40	4.61	4.50	4.31	37
27	17	11	19	12	18	116	72	188	.27	.19	.23	.18	38
28	40	25	29	20	18	175	164	339	.37	.35	.36	.12	39
11	10	14	13	19	14	81	65	146	.14	.13	.13	.09	40
14	13	13	12	12	16	90	63	153	.15	.13	.14	.12	41
6	7	5	4	5	5	45	24	69	.09	.06	.07	.08	42
20	23	43	46	28	35	212	174	386	.36	.30	.33	.34	43
24	25	34	53	35	23	210	177	387	.28	.24	.26	.13	44
7	21	11	12	16	11	81	67	148	.15	.13	.14	.09	45
8	14	12	9	9	5	59	45	104	.12	.09	.10	.13	46
11	7	7	6	12	4	55	31	86	.13	.07	.10	.08	47
17	13	12	9	14	25	96	96	192	.18	.19	.19	.14	48
2,381	2,903	3,310	3,066	3,028	3,140	18,452	16,339	34,791	.77	.76	.77	.68	

Deaths registered from **plague** in the districts

1	2		3		4						
Number.	District.	Circles of registration.		Villages.		January.	February.	March.	April.	May.	
		Number in each district.	Number from deaths from plague which were reported.	Number in each district.	Number from deaths from plague which were reported.						
MEERUT DIVISION.											
1	Dehra Dun ..	14	...	494	...	...	...	...	...	...
2	Saharanpur ..	30	9	1,618	52	39	80	194	442	317	
3	Muzaffarnagar ..	26	2	928	3	15	5	14	4	...	
4	Meerut ..	45	...	1,534	...	...	...	...	...	...
5	Bulandshahr ..	34	...	1,417	...	...	...	...	...	...
AGRA DIVISION.											
6	Aligarh ..	37	1	1,748	1	...	...	...	1	...
7	Muttra ..	32	...	891	...	...	...	...	...	...
8	Agra ..	37	...	1,233	...	...	...	...	...	...
9	Mainpuri ..	23	...	1,368	...	...	...	...	...	...
10	Etah ..	31	...	1,551	...	...	...	...	...	...
ROHILKHAND DIVISION.											
11	Bareilly ..	31	11	2,196	14	12	22	146	128	33	
12	Bijnor ..	31	16	2,154	90	15	22	54	236	70	
13	Budaun ..	28	6	1,659	32	...	25	25	69	14	
14	Moradabad ..	34	19	2,657	100	22	48	209	412	143	
15	Shahjahanpur ..	23	3	2,388	3	...	...	3	14	...
16	Pilibhit ..	15	3	1,094	3	...	...	5	10	...
ALLAHABAD DIVISION.											
17	Farrukhabad ..	24	...	1,717	...	...	...	...	...	...
18	Etawah ..	25	...	1,487	...	...	...	...	...	...
19	Cawnpore ..	28	1	1,972	1	...	...	...	1	...
20	Fatehpur ..	16	1	1,436	1	...	...	1	...	...
21	Allahabad ..	35	10	3,864	36	...	..	...	...	...
JHANSI DIVISION.											
22	Jhansi ..	35	...	1,323	...	...	...	...	...	...
23	Jalaun ..	14	...	848	...	...	...	...	...	...
24	Hamirpur ..	23	...	798	...	...	...	...	...	...
25	Banda ..	24	...	1,231	...	...	...	...	...	...
BENARES DIVISION.											
26	Benares ..	19	3	2,117	8	4	10	6	...	1	
27	Mirzapur ..	24	...	3,142	...	...	...	...	...	...
28	Jaunpur ..	22	1	3,169	5	4	4	4	9	28	
29	Ghazipur ..	22	10	2,390	150	234	257	542	282	91	
30	Ballia ..	19	11	1,740	65	57	130	193	108	17	
GORAKHPUR DIVISION.											
31	Gorakhpur ..	47	19	7,208	194	144	261	433	263	56	
32	Basti ..	25	11	6,921	107	100	84	245	71	26	
33	Azamgarh ..	34	20	4,809	169	140	315	506	310	54	
KUMAUN DIVISION.											
34	Naini Tal ..	19	3	1,650	3	...	2	6	6	...	
35	Almora ..	6	...	5,082	...	...	...	...	...	...
36	Garhwal ..	15	1	3,605	2	...	...	...	4	...
LUCKNOW DIVISION.											
37	Lucknow ..	15	...	937	...	...	..	...	...	...
38	Unao ..	19	...	1,715	...	...	...	...	...	...
39	Rae Bareli ..	14	...	1,748	...	..	...	...	..	...
40	Sitapur ..	24	4	2,311	5	3	1	13	8	5	
41	Hardoi ..	25	...	1,897	...	...	...	...	...	...
42	Kheri ..	18	13	1,731	61	71	168	207	90	23	
FYZABAD DIVISION.											
43	Fyzabad ..	23	7	2,951	64	90	90	128	116	27	
44	Gonda ..	25	...	2,910	...	...	...	...	...	...
45	Bahraich ..	19	...	1,894	...	...	...	...	...	...
46	Sultanpur ..	14	1	2,490	6	...	...	7	7	1
47	Partabgarh ..	16	...	2,188	...	...	...	...	...	...
48	Bara Banki ..	23	1	2,070	62	5	25	37	48	3	
Total for the Province...		1,182	187	106,281	1,237	955	1,549	2,978	2,639	909	

FORM No. XII.

of the United Provinces during each month of the year 1930.

5							6			7			8	9
June.	July.	August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	Number.
							Male.	Female.	Total.	Male.	Female.	Total.		
...	·09	1
26	3	...	...	...	7	10	487	631	1,118	·94	1·50	1·19	2·37	2
...	18	20	38	·04	·05	·05	3·48	3
...	2·22	4
...	2·24	5
...	1	1	...	...	...	·85	6
...	1·99	7
...	·49	8
...	9
...	·24	10
10	8	29	165	223	388	·30	·47	·38	1·27	11
5	9	6	8	8	..	31	194	270	464	·50	·77	·63	1·56	12
7	13	8	63	98	161	·12	·22	·16	1·64	13
29	...	27	...	1	39	30	373	587	960	·58	1·05	·80	2·03	14
...	5	12	17	·01	·03	·02	·67	15
...	1	1	6	11	17	·03	·05	·04	·70	16
...	·30	17
...	·06	18
...	1	...	1	...	...	...	·31	19
...	1	1	...	...	...	·49	20
...	·42	21
...	22
...	·08	23
...	·01	24
...	25
...	6	3	15	15	30	·03	·03	·03	·40	26
...	·05	27
...	18	31	49	·03	·05	·04	·56	28
6	8	9	5	15	29	109	651	936	1,587	1·63	2·45	2·03	6·40	29
17	3	3	12	46	248	338	586	·58	·83	·70	2·16	30
4	1	2	10	63	228	622	840	1,247	2,087	·51	·77	·64	·66	31
1	4	15	234	312	546	·24	·33	·28	1·32	32
...	...	5	7	4	24	158	641	882	1,523	·83	1·17	1·00	4·35	33
...	6	8	14	·04	·07	·05	·63	34
...	35
...	4	...	4	·02	...	·01	...	36
...	·13	37
...	·87	38
...	·52	39
...	7	23	30	·01	·04	·03	·74	40
...	·62	41
11	4	...	...	...	10	23	272	335	607	·56	·78	·66	·58	42
4	8	4	31	209	289	498	·35	·49	·42	1·16	43
...	·13	44
...	·06	45
...	4	11	15	·01	·02	·01	·21	46
...	·12	47
...	47	71	118	·09	·14	·11	1·02	48
120	25	49	33	102	385	1,116	4,508	6,352	10,860	·19	·29	·24	1·06	

STATISTICAL STATEMENTS
AND
APPENDICES
(*Vaccination*)

Paragraphs 5, 6, 7 and 11 of Chapter XIV.]

VACCINATION STATEMENT NO. I.—Showing the particulars of vaccination

Number.	Ranges and districts.	Population according to census of 1921.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary vaccina			
									Total.	Successful.		
					Male.	Female.	Total.			Under one year.	One and under six years.	
1	2	3	4	5	6			7	8	9	10	
First Range.	Dehra Dun ..	212,243	173	11	7,091	3,825	10,916	992.36	5,893	3,865	1,520	
	Saharanpur ..	937,471	439	18	22,650	18,766	41,456	2,303.11	38,221	33,572	2,508	
	Muzaffarnagar ..	794,265	475	15	17,945	14,800	32,745	2,183.00	31,973	25,873	2,685	
	Meerut ..	1,499,074	639	30	32,142	24,237	56,429	1,880.97	49,573	40,373	5,471	
	Bulandshahr ..	1,066,519	559	20	22,199	18,163	40,362	2,018.10	38,831	32,802	2,796	
	Aligarh ..	1,061,745	546	21	22,260	17,429	39,689	1,889.95	34,583	29,761	2,766	
	Muttra ..	619,138	427	15	13,356	10,254	23,610	1,574.72	20,748	15,794	2,154	
	Agra ..	924,155	498	23	21,941	17,122	39,063	1,698.39	34,948	25,170	4,816	
	Mainpuri ..	748,027	447	14	9,480	8,226	17,706	1,264.71	17,470	13,275	2,043	
	Etah ..	829,760	480	18	16,154	13,077	29,231	1,623.94	26,793	21,339	3,726	
	Bareilly ..	1,013,875	642	14	18,542	14,505	33,047	2,360.50	30,155	21,095	5,992	
	Bijnor ..	740,182	394	16	12,967	11,870	24,837	1,552.31	24,173	19,389	2,951	
	Budaun ..	975,347	435	18	21,473	15,652	37,125	2,062.50	32,199	25,735	4,414	
	Moradabad ..	1,193,653	524	24	25,713	23,117	48,830	2,034.58	49,110	38,372	4,678	
	Shahjahanpur ..	839,115	436	16	11,843	11,272	23,120	1,445.00	22,973	16,370	4,177	
	Pilibhit ..	431,601	320	9	8,227	6,980	15,207	1,689.67	15,057	10,654	2,308	
	Garhwal ..	485,136	86	13	18,725	14,141	32,866	2,523.15	13,509	6,429	11,551	
	Total ..	14,376,356	418	295	302,753	243,486	546,239	1,851.66	491,209	379,868	66,556	
Second Range.	Naini Tal ..	276,875	102	12	10,150	5,763	15,913	1,326.08	8,224	5,404	1,690	
	Almora ..	530,333	99	19	24,545	16,010	40,555	2,134.47	21,709	12,175	7,795	
	Lucknow ..	724,344	749	13	12,696	10,603	23,299	1,792.23	21,493	15,172	4,002	
	Unao ..	819,123	458	14	12,491	10,448	22,939	1,638.50	23,506	14,715	5,318	
	Rae Bareli ..	936,403	537	16	20,312	14,143	34,460	2,153.75	34,326	12,839	14,594	
	Sitapur ..	1,089,431	484	18	17,539	14,752	32,291	1,793.94	32,139	22,607	6,418	
	Hardoi ..	1,084,410	486	21	13,589	12,964	26,553	1,264.43	27,036	18,072	7,164	
	Kheri ..	913,475	307	22	12,489	11,570	24,059	1,093.59	23,758	16,169	6,174	
	Fyzabad ..	1,172,575	677	21	18,464	14,269	32,733	1,558.71	32,171	13,206	12,279	
	Gonda ..	1,473,038	524	25	23,274	18,308	41,582	1,663.28	40,270	17,271	17,149	
	Bahraich ..	1,065,377	403	19	21,404	17,976	39,380	2,072.63	38,333	24,639	10,927	
	Sultanpur ..	1,003,912	586	17	21,329	16,271	37,600	2,211.82	37,352	10,111	19,151	
	Partabgarh ..	855,130	593	14	15,042	10,351	25,394	1,813.86	24,496	8,363	11,901	
	Bara Banki ..	1,029,954	585	18	15,257	12,704	27,961	1,553.39	28,026	16,610	8,109	
		Total ..	12,974,500	403	249	233,582	186,137	424,719	1,705.70	392,839	207,353	132,671
	Third Range.	Farrukhabad ..	856,633	509	16	11,644	10,548	22,192	1,387.00	21,713	17,757	3,036
		Etawah ..	733,532	434	12	13,910	10,821	24,731	2,060.92	22,864	17,254	2,222
Cawnpore ..		1,143,664	484	25	19,182	15,526	34,708	1,338.32	31,234	22,450	6,182	
Fatehpur ..		652,392	397	12	8,491	6,812	15,303	1,275.25	15,178	10,298	3,220	
Allahabad ..		1,404,445	491	28	20,169	17,696	37,865	1,352.32	35,631	21,944	10,357	
Jhansi ..		606,499	167	26	12,664	10,915	23,579	906.83	21,849	17,659	2,461	
Jalaun ..		405,439	262	13	9,098	7,269	16,367	1,259.00	15,223	13,167	1,016	
Hamirpur ..		465,323	192	14	8,670	8,119	16,789	1,199.21	15,812	12,172	2,680	
Banda ..		583,036	207	16	8,953	7,481	16,434	1,027.12	16,303	12,112	3,263	
Benares ..		952,031	394	18	20,938	15,827	36,765	2,042.50	32,403	14,063	15,789	
Mirzapur ..		724,133	138	22	15,996	14,378	30,374	1,380.64	28,396	20,262	6,719	
Jaunpur ..		1,155,105	745	19	17,770	15,038	32,808	1,726.74	31,917	15,575	12,658	
Ghazipur ..		781,570	598	13	13,355	10,054	23,409	1,800.69	21,128	4,637	14,159	
Ballia ..		831,009	668	14	15,522	13,090	28,612	2,043.71	27,797	15,863	10,079	
Gorakhpur ..		3,266,830	721	73	55,544	50,267	105,811	1,449.45	105,524	59,607	33,241	
Basti ..		1,925,228	687	29	28,105	25,180	53,285	1,837.41	52,676	31,333	17,374	
Azamgarh ..		1,528,012	690	26	23,860	19,106	42,966	1,652.54	42,664	12,665	23,533	
	Total ..	18,024,931	443	376	303,871	258,127	561,993	1,494.67	538,317	318,323	168,089	
TOTAL OF ALL RANGES		45,375,787	423	920	845,206	687,750	1,532,956	1,666.26	1,422,415	906,044	367,316	
TOTAL OF DISPENSARY STAFF.		..	..	..	472	108	580	..	116	16	85
TOTAL OF PRIVATE MEDICAL PRACTITIONERS.		..	..	..	906	620	1,526	..	359	80	42
TOTAL OF RAILWAY DISPENSARIES.		..	..	..	2,023	392	2,415	..	610	223	215
GRAND TOTAL		45,375,787	423	920	848,607	688,870	1,537,477	1,666.26	1,423,500	906,363	367,658	

NOTE.—(1) Column 13—"Re-vaccination" includes the vaccination of all persons who bear marks of
 (2) Difference of 23,431 between the number of primary vaccinations and re-vaccinations performed
 ary operations.

* In addition 11,202 operations—420 primary and 10,782 re-vaccinations were performed by military

SUM

	Total number of persons vaccinated.		Total number of operations performed.	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.
By special staff (Statement I) ..	1,399,094	133,862	1,422,415	133,972
By dispensary staff ..	116	464	116	464
By Private Medical Practitioners ..	359	1,167	359	1,167
By Railway Dispensaries ..	610	1,805	610	1,805
Total ..	1,400,179	137,298	1,423,500	137,408

in the United Provinces during the year 1930-31.

Total of all ages.	Unknown.	Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average annual number of persons successfully vaccinated during previous five years.		Average annual number of deaths from small-pox during previous five years.	
		Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
11	12	13	14	15	16	17	18	19	20	21	22	23	24
5,558	105	5,126	2,608	385	96.02	55.01	38.47	1.78	7.51	7,545.80	35.55	35.20	.16
36,489	160	3,518	1,739	203	95.87	52.46	40.78	.41	5.77	35,622.00	38.00	103.20	.11
28,899	279	1,009	302	82	91.11	21.16	36.76	.87	5.43	26,607.40	33.49	135.40	.17
46,062	265	7,861	2,132	484	93.42	28.90	32.15	.53	6.16	45,473.40	30.33	352.00	.23
36,174	267	2,374	303	172	93.80	13.76	34.20	.68	7.24	35,728.00	33.50	512.20	.48
32,666	258	5,656	1,951	281	95.16	36.30	32.60	.75	4.97	34,841.00	32.81	400.80	.37
18,157	532	3,679	892	383	89.81	27.06	30.77	2.56	10.41	17,831.00	23.88	242.20	.39
30,152	1,094	5,448	341	313	89.06	6.64	32.99	3.13	5.74	30,149.60	32.62	323.20	.35
15,503	560	623	172	59	91.68	30.50	20.95	3.20	9.47	16,048.40	21.45	141.40	.19
25,648	68	2,702	1,087	72	95.97	41.33	32.22	.25	2.66	26,334.00	31.74	317.20	.38
27,188	570	3,919	1,451	389	91.90	41.10	28.25	1.89	9.93	27,672.40	27.29	121.20	.12
22,607	225	1,010	381	103	94.40	42.01	31.06	.93	10.20	21,952.20	29.66	477.40	.64
30,568	83	5,544	1,099	319	95.18	21.03	32.47	.26	5.75	28,590.60	29.31	268.40	.27
43,321	513	2,243	306	83	89.14	14.17	36.40	1.04	3.70	39,638.60	33.07	438.20	.36
20,901	255	846	370	46	92.00	46.25	25.35	1.11	5.44	22,432.40	26.79	123.80	.14
13,139	520	1,014	321	151	90.38	37.19	31.19	3.45	14.89	14,587.80	33.80	42.20	.10
18,153	99	14,357	10,464	1,550	93.60	81.70	53.98	.53	10.79	27,419.60	56.51	34.00	.07
451,185	5,853	67,429	25,919	5,075	92.96	41.57	33.19	1.19	7.53	458,574.20	31.90	4,073.00	.28
7,197	261	8,204	2,335	1,756	90.38	36.99	34.61	3.17	21.40	10,423.40	37.65	59.60	.21
20,556	589	18,985	7,517	3,823	97.33	49.59	52.93	2.71	20.16	29,216.20	55.09	81.20	.15
20,149	192	2,082	560	30	94.54	27.29	28.59	.89	1.44	21,726.80	29.99	341.20	.47
21,401	285	324	135	29	92.16	45.76	26.29	1.21	8.95	21,643.20	26.42	90.00	.11
32,744	241	314	196	33	96.06	69.75	35.13	.70	10.51	22,957.20	24.52	144.40	.15
30,746	143	535	205	3	96.11	41.33	28.32	1.46	7.29	30,052.80	27.58	53.80	.05
25,825	133	58	14	5	95.99	26.41	23.83	.50	8.62	27,397.20	25.26	155.40	.14
23,110	62	427	225	13	97.53	54.35	25.54	.26	3.04	22,929.40	25.11	67.20	.07
28,663	439	1,479	1,067	23	90.33	73.23	25.35	1.36	1.55	29,344.80	25.02	271.20	.23
39,520	132	1,405	1,031	60	98.46	80.37	27.56	.33	4.27	36,009.00	24.44	104.00	.07
38,109	85	1,016	965	10	99.51	95.92	36.68	.22	.98	36,514.80	34.27	82.00	.08
35,891	473	270	190	12	97.32	73.64	35.94	1.27	4.44	31,749.40	31.62	74.00	.07
22,995	343	1,176	686	121	95.20	65.02	27.69	1.40	10.29	21,542.40	25.19	120.60	.14
26,179	264	194	54	14	94.30	30.00	25.47	.94	7.22	23,385.00	22.70	29.80	.03
373,085	3,647	36,469	15,280	5,973	95.35	50.10	29.93	.93	16.33	364,891.60	28.12	1,675.00	.13
20,945	80	649	308	..	96.82	47.46	24.81	.37	..	22,720.40	26.52	132.80	.15
19,872	381	2,676	1,052	204	88.38	42.56	28.52	1.67	7.62	20,141.00	27.46	87.60	.12
29,565	222	3,744	1,421	209	95.33	40.20	26.97	.72	5.58	35,923.00	31.27	107.40	.09
13,990	282	478	215	47	93.92	49.88	21.77	1.86	9.83	17,460.00	26.76	26.80	.04
33,681	595	2,744	1,043	399	96.13	44.43	24.72	1.67	14.54	33,311.60	23.72	279.40	.20
20,601	125	2,170	1,107	201	94.33	56.22	35.79	.57	9.26	21,942.20	36.18	89.80	.15
14,565	78	1,215	511	126	96.14	46.92	37.18	.51	10.37	14,670.60	36.18	24.20	.06
15,137	111	1,228	977	51	96.41	33.01	34.63	.70	4.15	17,405.60	37.40	25.60	.05
15,689	125	308	276	10	96.98	92.62	27.15	.77	3.25	16,537.80	28.12	44.20	.07
30,883	214	4,760	2,440	388	95.94	55.81	35.00	.66	8.16	30,423.60	31.96	274.80	.29
27,890	11	2,227	1,909	2	98.26	35.80	41.15	.04	.09	28,659.80	39.57	165.80	.23
30,505	303	1,376	1,016	88	96.49	78.88	27.29	.95	6.39	31,895.00	27.61	196.00	.17
20,468	115	2,477	1,857	123	97.41	79.05	28.56	.54	5.17	20,782.00	26.59	254.20	.32
27,268	106	937	813	17	93.47	88.91	33.80	.33	1.81	25,294.00	30.44	189.20	.23
98,816	2,933	1,452	681	213	96.32	54.96	30.46	2.78	14.67	102,782.00	31.46	558.80	.17
51,528	445	849	473	100	98.65	63.15	27.01	.84	11.78	91,905.80	26.96	123.40	.06
41,214	381	784	510	91	97.47	73.59	27.31	.89	11.61	38,712.40	25.33	476.80	.31
512,617	6,507	30,074	16,614	2,274	96.39	59.76	29.36	1.21	7.56	530,571.80	29.43	3,056.80	.17
1,336,887	16,007	133,972	57,813	13,324	95.06	47.92	30.74	1.12	9.94	1,354,037.60	29.84	3,804.80	.19
101	13	464	322	16	98.06	71.87	..	11.21	3.45	..	..	..	..
122	237	1,167	..	594	100.00	..	..	66.02	50.90	..	..	..	..
520	49	1,805	538	470	92.69	40.30	..	8.03	26.04	..	..	..	..
1,337,630	16,306	137,408*	58,673	14,402	95.06	47.70	30.77	1.14	10.48	1,354,037.60	29.84	3,804.80	.19

previous vaccination or of small-pox.

(total of columns 8 and 13), and the total number of persons vaccinated (total in column 6) represents second-

medical officers in cantonments, out of these 8,749-339 primary and 8,360 re-vaccinations were successful.

MARY.

Percentage of successful cases in which the results were known.		Average number of persons vaccinated by each vaccinator.		Number of children successfully vaccinated.		Ratio of successful vaccination per 1,000 of population.	Total cost of department.	Average cost of each successful case.
Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One and under six years.			
95.06	47.92	920	1,666.26	906,044	367,316	30.74	Rs. 424,110	Rs. 0 4 4
98.06	71.87	..	..	16	85	..	..	..
100.00	..	..	..	80	42	..	..	..
92.69	40.30	..	..	223	215	..	..	..
95.06	47.70	920	1,666.26	906,363	367,658	30.77	424,110	0 4 4

VACCINATION STATEMENT NO. II.—Showing the cost of the department

Number.	Ranges and districts.	Expen							
		Assistant Direc- tors of Public Health.		Assistant Super- intendents of Vaccination.		Vaccinators		Clerks.	
		Number.	Pay.	Number.	Pay.	Number.	Pay.	Number.	Pay.
		Rs.	Rs.		Rs.		Rs.		Rs.
1	Dehra Dun .. ..	..	..	1	540	11	2,984	..	..
2	Saharanpur .. ..	..	..	1	597	18	5,996	2	821
3	Muzaffarnagar .. ..	..	..	1	540	15	5,280	..	..
4	Meerut .. ..	..	..	1	727	30	10,032	..	..
5	Bulandshahr .. ..	..	..	1	720	20	6,178	..	..
6	Aligarh .. ..	..	..	1	744	21	5,815	..	..
7	Muttra .. ..	..	..	1	540	15	3,750	1	40
8	Agra .. ..	..	..	1	2,280	23	8,052	..	..
9	Mainpuri .. ..	..	..	1	557	14	4,187	..	..
10	Etah .. ..	..	..	1	546	18	6,018	..	..
11	Bareilly .. ..	..	..	1	780	14	4,353	2	156
12	Bijnor .. ..	..	..	1	712	16	5,046	..	..
13	Budaun .. ..	..	..	1	599	18	6,013	..	..
14	Moradabad .. ..	..	..	1	540	24	8,331	..	..
15	Shahjahanpur .. ..	..	..	1	720	16	4,178	..	..
16	Pilibhit .. ..	..	..	1	552	9	2,916	..	..
17	Garhwal .. ..	..	..	1	548	18	3,844	..	..
18	Naini Tal .. ..	..	..	1	780	12	3,674	..	..
18A	Government Bovine Lymph Dépôt, Patwa Dangar, district Naini Tal.	..	..	..	..	(a)4	2,880	(b)4	11,673
19	Almora .. ..	..	..	1	720	19	7,450	..	..
20	Lucknow .. ..	..	..	1	780	13	4,946	..	..
21	Unao .. ..	..	..	1	720	14	3,894	..	..
22	Rae Bareli .. ..	..	..	1	540	16	4,581	..	..
23	Sitapur .. ..	..	..	1	540	18	5,854	..	..
24	Hardoi .. ..	..	..	1	720	21	6,180	..	..
25	Kheri .. ..	..	..	1	547	22	6,757	..	..
26	Fyzabad .. ..	..	..	1	650	21	6,026	..	..
27	Gonda .. ..	..	..	1	540	25	8,056	..	..
28	Bahraich .. ..	..	..	1	720	19	5,813	..	..
29	Sultanpur .. ..	..	..	1	597	17	5,427	..	..
30	Partabgarh .. ..	..	..	1	540	14	3,921	..	..
31	Bara Banki .. ..	..	..	1	720	18	4,810	..	..
32	Farrukhabad .. ..	..	..	1	706	16	5,122	1	48
33	Etawah .. ..	..	..	1	540	12	3,755	..	..
34	Cawnpore .. ..	..	..	1	1,215	25	8,261	..	..
35	Fatehpur .. ..	..	..	1	540	12	3,679	..	..
36	Allahabad .. ..	..	..	1	780	28	8,053	1	111
37	Jhansi .. ..	..	..	1	557	26	8,370	..	..
38	Jalaun .. ..	..	..	1	315	13	3,934	..	..
39	Hamirpur .. ..	..	..	1	540	14	4,059	..	..
40	Banda .. ..	..	..	1	540	16	4,675	..	..
41	Benares .. ..	..	..	1	780	18	6,480	1	120
42	Mirzapur .. ..	..	..	1	720	22	6,482	..	..
43	Jaunpur .. ..	..	..	1	720	19	4,974	..	..
44	Ghazipur .. ..	..	..	1	540	13	3,943	1	164
45	Ballia .. ..	..	..	1	540	14	3,792	..	..
46	Gorakhpur .. ..	..	..	2	1,807	73	16,859	..	..
47	Basti .. ..	..	..	1	720	29	9,845	1	271
48	Azamgarh .. ..	..	..	1	916	26	7,423	..	..
	Total of districts ..	..	..	49	33,832	(a)924	2,82,913	(b)14	13,404
	Office establishment of Assist- ant Director of Public Health, 1st Range.	1	13,187	..	..	..	..	1	768
	Office establishment of Assist- ant Director of Public Health, 2nd Range.	1	12,924	..	..	..	..	1	768
	Office establishment of Assist- ant Director of Public Health, 3rd Range.	1	14,487	..	..	..	..	1	720
	GRAND TOTAL ..	3	40,598	49	33,832	(a)924	2,82,913	(b)17	15,660

(a) Includes four laboratory assistants.

(b) Includes one superintendent and one electrician.

in the United Provinces during the year 1930-31.

diture.						Paid from—						Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only.	Average cost of each successful case performed by the vaccination staff only.	Number.
Number.	Peons. Pay.	Total pay of establishment.	Travelling allowance.	Contingencies.	Total cost.	Imperial funds.	Provincial funds.*	Local funds.†	Municipalities.	Native States.‡	Total.			
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		A. P.	
..	..	3,524	378	652	4,554	..	..	3,339	1,215	..	4,554	8,166	8 11	1
..	..	7,414	120	1,145	8,679	..	..	6,050	2,629	..	8,679	38,228	3 7	2
..	..	5,820	175	1,200	7,195	..	..	6,129	1,065	..	7,195	29,201	4 0	3
..	..	10,759	251	1,166	12,176	..	..	10,454	1,722	..	12,176	48,194	4 0	4
..	..	6,898	120	971	7,989	..	..	6,614	1,375	..	7,989	36,477	3 6	5
1	50	6,609	68	1,581	8,258	..	..	6,587	1,671	..	8,258	34,617	3 10	6
2	120	4,450	227	1,018	5,695	..	..	4,444	1,251	..	5,695	19,049	4 9	7
2	300	10,632	228	927	11,787	..	..	8,122	3,665	..	11,787	30,493	6 2	8
..	..	4,744	120	574	5,438	..	..	5,166	272	..	5,438	15,675	5 7	9
..	..	6,574	190	1,030	7,794	..	..	5,972	1,822	..	7,794	26,735	4 7	10
4	339	5,628	240	1,433	7,301	..	..	5,747	1,554	..	7,301	28,639	4 1	11
1	60	5,818	120	1,063	7,001	..	..	5,344	1,657	..	7,001	22,988	4 10	12
2	198	6,810	143	926	7,879	..	..	6,461	1,418	..	7,879	31,667	3 11	13
5	484	9,355	147	1,308	10,810	..	..	8,125	2,685	..	10,810	43,627	3 11	14
2	130	5,028	123	712	5,863	..	..	4,712	1,151	..	5,863	21,271	4 3	15
2	166	3,634	240	930	4,804	..	..	3,963	841	..	4,804	13,460	5 9	16
14	900	5,292	180	144	5,616	..	..	5,616	..	..	5,616	28,617	3 1	17
2	219	4,673	240	1,490	6,403	..	..	5,306	1,097	..	6,403	9,582	10 8	18
(c)3	433	14,986	1,357	23,490	44,833	..	44,833	..	..	..	44,833	..	..	18A
..	..	8,170	1 080	892	10,142	..	..	9,636	506	..	10,142	28,073	5 10	19
..	..	5,726	120	1,192	7,038	..	..	3,489	3,549	..	7,038	20,709	5 5	20
1	63	4,677	161	654	5,492	..	..	5,111	381	..	5,492	21,536	4 1	21
..	..	5,121	120	781	6,022	..	..	5,681	330	11	6,022	32,940	2 11	22
1	45	6,439	120	510	7,069	..	..	6,480	589	..	7,069	30,951	3 8	23
..	..	6,850	124	1,085	8,059	..	..	6,995	1,064	..	8,059	25,839	5 0	24
2	263	7,567	133	1,128	8,828	..	..	6,192	536	2,100	8,828	23,335	6 1	25
2	84	6,760	323	1,209	8,292	..	..	6,537	1,695	..	8,292	29,730	4 5	26
1	156	8,752	120	646	9,518	..	..	8,773	745	..	9,518	40,601	3 9	27
2	78	6,611	130	1,181	7,922	..	..	7,231	691	..	7,922	39,074	3 3	28
..	..	6,024	202	854	7,080	..	..	6,741	339	..	7,080	36,081	3 2	29
..	..	4,461	180	832	5,473	..	..	5,095	378	..	5,473	23,681	3 8	30
2	93	5,623	245	1,111	6,979	..	..	6,680	299	..	6,979	26,233	4 2	31
..	..	5,876	125	765	6,766	..	..	5,781	985	..	6,766	21,253	5 0	32
..	..	4,295	180	621	5,096	..	..	4,540	556	..	5,096	20,924	3 11	33
7	1,180	10,656	180	1,636	12,472	..	..	7,558	4,914	..	12,472	30,986	6 5	34
..	..	4,219	124	799	5,142	..	..	4,866	276	..	5,142	14,205	5 9	35
4	409	9,353	152	1,635	11,140	..	..	8,683	2,457	..	11,140	34,724	5 2	36
2	144	9,071	336	886	10,343	..	..	8,681	1,662	..	10,343	21,708	7 7	37
..	..	4,249	114	565	4,928	..	..	3,406	1,066	456	4,928	15,076	5 0	38
..	..	4,599	129	482	5,210	..	..	5,210	..	..	5,210	16,114	5 2	39
2	94	5,309	120	429	5,858	..	..	5,337	521	..	5,858	15,965	5 10	40
..	..	7,380	360	1,780	9,520	..	..	7,126	2,394	..	9,520	33,323	4 6	41
..	..	7,202	120	592	7,914	..	..	7,127	787	..	7,914	29,799	4 3	42
1	36	5,730	120	1,057	6,907	..	..	6,487	420	..	6,907	31,521	3 6	43
1	63	4,715	120	823	5,658	..	..	5,078	580	..	5,658	22,325	4 1	44
1	60	4,392	90	584	5,066	..	..	4,617	449	..	5,066	28,086	2 11	45
..	..	18,666	594	2,086	21,346	..	..	20,593	609	144	21,346	99,497	3 5	46
..	..	10,836	120	2,070	13,026	..	..	12,930	..	96	13,026	52,001	4 0	47
1	6	8,345	135	1,249	9,729	..	..	9,456	273	..	9,729	41,724	3 8	48
70	6,173	3,36,322	10,894	76,894	4,24,110	..	44,833	3,20,328	56,142	2,807	4,24,110	1,394,700	(d)4 4	
3	410	14,365	2,663	1,115	18,143	..	18,143	..	..	..	18,143	..	..
3	418	14,110	2,711	944	17,765	..	17,765	..	..	..	17,765	..	..
3	423	15,630	2,958	1,160	19,748	..	19,748	..	..	..	19,748	..	..
79	7,424	3,80,427	19,226	80,113	4,79,766	..	1,00,489	3,20,323	56,142	2,807	4,79,766	1,394,700	(d)4 4	

(c) Includes one mali.

(d) Calculated on the total number of successful vaccinations and re-vaccinations performed by the Department only and the total cost of districts excluding that of the Government Bovine Lymph Dépôt.

* Government.

† District Boards, Cantonments and Town and Notified Areas.

‡ Includes contributions from Courts of Wards and private persons.

COMPARATIVE VACCINATION STATEMENT NO. III.—*Showing the number of per
Provinces in each of the undermentioned*

Number.	Range.	Establishment.	Persons					
			1921-22.		1922-23.		1923-24.	
			Total number.	Number success-fully vacci-nated.	Total number.	Number success-fully vacci-nated.	Total number.	Number success-fully vacci-nated.
		MEERUT DIVISION.						
1	First Range.	Municipal	17,951	17,486	17,960	17,462	17,393	15,914
2		Local Funds	122,279	118,151	123,537	119,147	128,018	119,475
3		Native States .. ..	..	..	..	..	..	..
		AGRA DIVISION.						
4		Municipal	15,364	14,150	16,907	15,755	16,568	14,723
5		Local Funds	97,463	92,640	96,533	91,478	101,277	91,795
6		Native States	2,289	2,248	2,235	2,148	1,691	1,617
		ROHILKHAND DIVISION.						
7		Municipal	20,007	19,012	19,972	19,025	22,914	(a)20,641
8	Local Funds	116,845	110,953	118,929	112,763	130,649	117,995	
9	Native States .. ..	..	..	..	..	..	..
		GARHWAL DISTRICT.						
10	Local Funds	11,521	11,200	10,723	10,408	11,176	10,728	
	Total of First Range ..	403,719	385,340	406,796	388,186	428,840	392,888	
		NAINI TAL AND ALMORA DISTRICTS.						
11	Second Range.	Municipal	1,131	1,112	1,043	1,021	1,005	979
12		Local Funds	20,399	19,277	20,463	19,277	25,071	23,136
13		Native States .. ..	..	..	..	..	..	..
		LUCKNOW DIVISION.						
14		Municipal	14,713	14,064	14,593	13,903	14,548	13,775
15		Local Funds	91,233	89,151	94,258	91,797	95,812	91,104
16		Native States	20,769	20,338	23,418	22,952	23,432	22,755
		FYZABAD DIVISION.						
17		Municipal	7,845	7,663	7,960	7,673	8,758	8,333
18	Local Funds	133,499	131,203	137,376	134,754	144,754	138,583	
19	Native States	2,749	2,691	3,737	3,662	4,128	4,088	
	Total of Second Range ..	292,338	285,499	302,843	295,039	317,508	302,753	
		ALLAHABAD DIVISION.						
20	Third Range.	Municipal	14,317	13,588	14,329	13,547	14,107	13,289
21		Local Funds	95,887	92,823	96,817	93,554	101,099	92,664
22		Native States	1,524	1,464	..	..	..	..
		JHANSI DIVISION.						
23		Municipal	6,016	5,844	5,749	5,555	5,817	5,622
24		Local Funds	56,706	54,610	57,858	56,496	57,210	54,958
25		Native States	2,229	2,165	2,196	2,143	2,422	2,273
		BENARES DIVISION.						
26		Municipal	10,915	10,677	11,215	11,031	11,344	10,865
27	Local Funds	104,736	103,817	100,630	99,421	99,682	96,373	
28	Native States	2,621	2,605	2,606	2,551	2,637	2,569	
		GORAKHPUR DIVISION.						
29	Municipal	2,760	2,609	2,185	2,095	2,539	2,471	
30	Local Funds	147,118	141,199	153,182	146,750	160,773	147,416	
31	Native States	3,512	3,191	4,538	3,210	4,536	2,282	
	Total of Third Range ..	448,341	434,597	451,305	436,353	462,216	431,782	
	Total of all Ranges ..	1,144,398	1,105,936	1,160,949	1,119,573	1,208,564	1,127,423	
	Total of Dispensaries ..	161	143	300	271	215	179	
		GRAND TOTAL ..	1,144,559	1,106,079	1,161,249	1,119,849	1,208,779	(b) 1,127,602

(a) The total of these figures should be taken as 152,717 and not 153,563 as the Civil Surgeon, Bijnor, omitted to exclude 846 secondary operations in the district return.

(b) In addition, 336 successful primary operations were performed by military medical officers in cantonments.

sons primarily vaccinated and the number successfully vaccinated in the United official years.—(continued).

primarily vaccinated.

1924-25.		1925-26.		1926-27.		1927-28.	
Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
14,690	13,786	13,053	11,725	15,500	14,342	16,167	15,068
133,321	127,698	134,785	127,681	124,418	118,259	131,635	122,958
..
18,063	16,321	18,841	16,628	17,747	16,180	18,480	16,767
102,730	96,315	105,148	95,871	103,500	97,172	109,883	99,409
1,917	1,874	1,451	1,390	1,308	1,299	1,420	1,404
26,443	24,583	26,404	24,195	25,470	23,835	21,193	19,813
123,894	120,007	139,757	127,558	137,910	125,556	136,980	127,647
..
14,767	14,439	17,483	16,872	15,335	15,592	15,164	14,802
440,825	415,023	456,922	421,920	441,688	412,235	450,922	417,868
1,398	1,335	1,392	1,346	1,432	1,355	941	901
26,873	25,525	27,101	25,185	24,847	23,121	26,862	24,745
..
13,717	13,037	13,517	11,864	12,249	11,248	13,341	12,203
96,237	94,070	106,690	102,737	110,278	107,145	123,639	117,353
19,804	19,525	17,899	17,516	13,949	13,591	12,931	12,397
8,429	7,965	7,969	7,257	8,067	7,192	8,714	7,978
144,825	140,858	154,523	148,470	164,140	155,637	173,170	165,310
3,911	3,812	2,843	2,792	6,246	5,664	..	..
315,194	306,127	331,934	317,167	341,208	324,953	359,598	340,887
15,799	14,539	17,212	15,060	17,470	15,199	17,859	15,992
103,821	99,945	107,413	101,209	110,692	105,376	112,935	106,987
..
6,327	6,142	6,658	6,231	7,083	6,640	6,728	6,504
57,778	56,486	56,786	54,265	58,781	56,749	62,705	61,008
2,583	2,520	2,657	2,567	2,658	2,611	2,706	2,592
11,101	10,773	12,030	10,561	12,144	11,280	11,303	10,551
96,280	95,037	110,049	108,754	116,771	114,191	121,766	117,159
2,005	1,974	1,485	1,454	..	..	..	..
2,565	2,432	2,174	1,387	2,391	2,216	2,669	2,533
163,488	155,217	171,899	163,278	172,777	164,277	208,004	197,423
4,031	3,439	4,096	3,625	3,818	3,700	3,206	2,816
465,778	448,504	492,459	468,891	504,585	482,339	549,881	523,570
1,221,797	1,169,654	1,281,315	1,207,978	1,287,481	1,219,527	1,360,401	1,282,325
216	212	304	295	552	452	193	180
1,222,013	(c) 1,169,866	1,281,619	(d) 1,208,273	1,288,033	(e) 1,219,979	1,360,594	(f) 1,282,505

(c) In addition, 236 successful primary operations were performed by military medical officers in cantonments.

(d) In addition, 326 successful primary operations were performed by military medical officers in cantonments.

(e) In addition, 426† successful primary operations were performed by military medical officers in cantonments.

(f) In addition, 1,055† successful primary operations were performed by military medical officers in cantonments.

†These figures refer to the calendar years.

COMPARATIVE VACCINATION STATEMENT NO. III.—*Showing the number of persons primarily vaccinated and the number successfully vaccinated in the United Provinces in each of the undermentioned official years—(concluded).*

Number.	Range.	Establishment.	Persons primarily vaccinated.					
			1928-29.		1929-30.		1930-31.	
			Total number.	Number success-fully vacci-nated.	Total number.	Number success-fully vacci-nated.	Total number.	Number success-fully vacci-nated.
	First Range.	MEERUT DIVISION.						
1		Municipal	19,994	18,416	15,083	13,858	15,862	13,974
2		Local Funds	134,414	127,729	145,681	137,425	146,158	139,208
3		Native States .. ..	..	..	..	..	..	..
		AGRA DIVISION.						
4		Municipal	20,667	18,848	19,254	17,030	13,775	16,483
5		Local Funds.. ..	112,286	104,294	117,300	107,130	112,426	105,643
6		Native States	1,627	1,614	..	..	..	..
		ROHILKHAND DIVISION.						
7		Municipal	21,656	19,908	23,035	20,780	24,142	22,339
8	Local Funds.. ..	141,239	130,432	144,826	135,396	143,461	135,385	
9	Native States .. ..	..	..	..	..	..	..
	Second Range.	GARHWAL DISTRICT.						
10		Local Funds	17,036	16,679	19,351	19,079	18,509	18,153
		Total of First Range ..	468,919	437,920	484,530	450,698	478,833	451,185
		NAINI TAL AND ALMORA DISTRICTS.						
11		Municipal	1,100	989	841	802	847	810
12		Local Funds.. ..	29,467	27,237	30,112	28,531	28,462	26,943
13		Native States .. ..	..	..	..	..	..	..
		LUCKNOW DIVISION.						
14		Municipal	12,399	11,729	11,478	10,448	10,540	9,507
15		Local Funds.. ..	137,885	131,819	146,941	141,693	141,877	137,155
16	Native States	11,774	11,411	7,469	7,305	7,447	7,313	
	Third Range.	FYZABAD DIVISION.						
17		Municipal	7,697	7,110	6,056	5,738	5,860	5,652
18		Local Funds.. ..	185,874	177,705	189,845	182,644	193,239	185,705
19		Native States .. ..	..	..	..	..	..	..
		Total of Second Range ..	336,696	368,000	392,742	377,161	388,292	373,085
		ALLAHABAD DIVISION.						
20		Municipal	19,912	16,877	18,811	16,312	16,404	14,609
21		Local Funds.. ..	115,946	110,567	120,386	113,766	108,121	103,444
22		Native States .. ..	..	..	..	..	..	..
		JHANSI DIVISION.						
23	Municipal	7,183	6,923	7,170	6,798	5,994	5,499	
24	Local Funds.. ..	62,322	60,506	60,989	58,604	59,188	57,504	
25	Native States	2,315	2,677	3,199	2,944	3,075	2,989	
	Fourth Range.	BENARES DIVISION.						
26		Municipal	11,854	11,406	11,647	11,217	10,342	10,031
27		Local Funds.. ..	126,257	123,012	131,746	129,026	129,856	126,983
28		Native States .. ..	..	..	..	..	..	..
		GORAKHPUR DIVISION.						
29		Municipal	2,607	2,350	2,602	2,407	2,590	2,511
30		Local Funds.. ..	207,990	199,189	210,089	201,723	195,186	187,925
31		Native States	3,240	3,122	3,407	3,281	1,213	1,121
		Total of Third Range ..	560,123	536,629	570,046	546,083	531,969	512,617
		Total of all Ranges ..	1,415,741	1,342,549	1,447,318	1,373,942	1,399,094	1,336,837
	Total of Dispensaries ..	185	167	528	430	726*	621*	
	GRAND TOTAL ..	1,415,926	(g) 1,342,716	1,447,846	(h) 1,374,372	1,399,820	(i) 1,337,508	

(g) In addition, 820† successful primary operations were performed by military medical officers in cantonments.

(h) In addition, 164† successful primary operations were performed by military medical officers in cantonments.

(i) In addition, 339 successful primary operations were performed by military medical officers in cantonments.

† These figures refer to the calendar years.

* Includes figures for railway dispensaries.

VACCINATION STATEMENT NO. IV.—*Showing the particulars of vaccination verified by Inspecting Officers in the United Provinces during the year 1930-31.*

Number.	Ranges and districts.		Total number of persons vaccinated.		TOTAL NUMBER INSPECTED—		
			Primary.	Re-vacci- nations.	By Assistant Directors of Public Health or District Superintendents of Vaccination.		
					Primary.	Re-vacci- nations.	
1	First Range	Dehra Dun ..	5,790	5,126	..	..
2		Saharanpur ..	37,938	3,518	1,222	10	
3		Muzaffarnagar ..	31,236	1,509	7,229	117	
4		Meerut ..	48,568	7,861	641	95	
5		Bulandshahr ..	37,988	2,374	6,670	423	
6		Aligarh ..	34,034	5,655	2,037	6	
7		Muttra ..	19,938	3,672	2,986	190	
8		Agra ..	33,615	5,448	..	..
9		Mainpuri ..	17,083	623	438	..	
10		Etah ..	26,531	2,700	1,386	31	
11		Bareilly ..	29,134	3,913	..	..
12		Bijnor ..	23,329	1,008	286	..	
13		Budaun ..	31,584	5,541	1,404	136	
14		Moradabad ..	46,589	2,241	5,261	104	
15		Shahjahanpur ..	22,274	846	..	..
16		Pilibhit ..	14,193	1,014	680	..	
17	Second Range.	Garhwal ..	18,509	14,357	317	596	
18		Naini Tal ..	7,720	8,193	964	340	
19		Almora ..	21,589	18,966	81	4	
20		Lucknow ..	21,217	2,082	3,638	..	
21		Unao ..	22,615	324	4,066	..	
22		Rae Bareli ..	34,147	313	5,361	2	
23		Sitapur ..	31,756	535	5,264	..	
24		Hardoi ..	26,495	58	13,190	18	
25		Kheri ..	23,634	425	4,615	6	
26		Fyzabad ..	31,255	1,478	12,958	33	
27		Gonda ..	40,177	1,405	12,344	1	
28		Bahraich ..	38,364	1,016	14,436	57	
29		Sultanpur ..	37,330	270	13,426	..	
30		Partabgarh ..	24,226	1,168	7,172	117	
31		Bara Banki ..	27,767	194	6,858	..	
32		Farrukhabad ..	21,545	647	730	..	
33		Etawah ..	22,055	2,676	1,394	14	
34		Third Range.	Cawnpore ..	30,974	3,734	140	..
35	Fatehpur ..		14,827	476	2,476	169	
36	Allahabad ..		35,124	2,741	3,263	16	
37	Jhansi ..		21,409	2,170	4,919	254	
38	Jalaun ..		15,154	1,213	3,591	46	
39	Hamirpur ..		15,568	1,221	1,263	14	
40	Banda ..		16,126	308	1,334	..	
41	Benares ..		32,005	4,760	9,014	2,109	
42	Mirzapur ..		28,147	2,227	3,544	..	
43	Jaunpur ..		31,433	1,375	15,034	71	
44	Ghazipur ..		20,938	2,471	6,082	54	
45	Ballia ..		27,675	937	4,842	17	
46	Gorakhpur ..		104,359	1,452	13,114	32	
47	Basti ..		52,442	843	13,012	..	
48	Azamgarh ..		42,188	778	7,989	33	
Total for the province ..			1,399,094	133,862	227,171	5,120	

VACCINATION STATEMENT NO. IV.—*Showing the particulars of vaccination verified*

Number.	Ranges and districts.			TOTAL NUMBER INSPECTED—		PERCENTAGE OF NUMBER	
				By Assistant Superintendents of Vaccination or other Inspecting Officers.		By Assistant Directors of Public Health or District Superintendents of Vaccination.	
				Primary.	Re-vaccinations.	Primary.	Re-vaccinations.
1	First Range	Dehra Dun ..	..	3,698	1,072	..	..
2		Saharanpur ..	..	14,939	67	3.22	..28
3		Muzaffarnagar ..	..	13,708	143	23.14	7.75
4		Meerut ..	..	12,540	452	1.32	1.21
5		Bulandshahr ..	..	16,459	472	17.56	17.82
6		Aligarh ..	..	5,497	154	5.98	.11
7		Muttra ..	..	10,065	965	14.98	5.17
8		Agra ..	..	18,010	3,004	..	..
9		Mainpuri ..	..	6,893	233	2.56	..
10		Etah ..	..	15,658	1,559	7.11	1.15
11		Bareilly ..	..	19,258	34	..	..
12		Bijnor ..	..	12,670	337	1.20	..
13		Budaun ..	..	14,601	654	4.44	2.45
14		Moradabad ..	..	8,964	272	11.29	4.64
15		Shahjahanpur ..	..	10,616	71	..	..
16		Pilibhit ..	..	7,853	300	4.79	..
17		Garhwal ..	..	10,118	10,746	1.71	4.15
18	Second Range.	Naini Tal ..	..	3,789	2,396	12.49	4.15
19		Almora ..	..	8,693	4,316	.37	.02
20		Lucknow ..	..	9,641	27	17.15	..
21		Unao ..	..	8,115	119	17.98	..
22		Rae Bareli ..	..	13,712	168	15.70	.64
23		Sitapur ..	..	10,306	202	16.58	..
24		Hardoi ..	..	12,908	22	49.78	31.03
25		Kheri ..	..	7,377	151	19.53	1.41
26		Fyzabad ..	..	12,363	432	41.46	2.23
27		Gonda ..	..	13,014	25	30.72	.07
28		Bahraich ..	..	14,883	466	37.63	5.61
29		Sultanpur ..	..	12,133	22	35.96	..
30		Partabgarh ..	..	13,568	696	29.60	10.02
31		Bara Banki ..	..	8,449	20	24.70	..
32		Farrukhabad ..	..	7,094	146	3.39	..
33		Etawah ..	..	14,929	657	6.32	.52
34	Third Range.	Cawnpore ..	..	13,607	1,314	.45	..
35		Fatehpur ..	..	4,712	54	16.70	35.50
36		Allahabad ..	..	11,232	10	9.29	.58
37		Jhansi ..	..	11,033	595	22.98	11.70
38		Jalaun ..	..	9,039	282	23.70	3.79
39		Hamirpur ..	..	6,753	568	8.11	1.15
40		Banda ..	..	12,557	43	8.27	..
41		Benares ..	..	12,581	2,207	23.16	44.31
42		Mirzapur ..	..	11,643	288	12.59	..
43		Jaunpur ..	..	13,943	94	47.83	5.16
44		Ghazipur ..	..	10,508	374	29.05	2.13
45		Ballia ..	..	18,317	143	17.49	1.31
46		Gorakhpur ..	..	32,419	367	12.57	2.20
47		Basti ..	..	19,304	101	24.31	..
48		Azamgarh ..	..	11,340	70	18.94	4.33
Total for the province ..				577,679	37,465	16.24	3.32

by Inspecting Officers in the United Provinces during the year 1930-31 --(concl'd.).

INSPECTIONS TO TOTAL VACCINATED—		PERCENTAGE OF CASES FOUND SUCCESSFUL OF TOTAL NUMBER INSPECTED —				Percentage of success reported by vaccinators.	
By Assistant Superin- tendents of Vaccination or other Inspecting Officers.		By Assistant Directors of Public Health or District Superintendents of Vaccination.		By Assistant Superinten- dents of Vaccination or other Inspecting Officers.			
Primary.	Re-vacci- nations.	Primary.	Re-vacci- nations.	Primary.	Re-vacci- nations.	Primary.	Re-vacci- nations.
63·87	20·91	..	..	96·35	31·32	96·02	55·01
39·51	1·90	97·93	30·00	96·64	40·00	95·87	52·46
43·83	9·48	95·60	29·54	92·10	10·67	91·11	21·16
25·82	5·75	90·87	19·70	86·40	8·07	93·42	23·90
43·83	19·83	91·26	7·81	52·47	6·25	93·80	13·76
16·15	2·72	97·50	..	94·80	25·64	95·16	36·30
50·48	26·28	90·21	17·54	89·33	18·65	89·81	27·06
53·58	55·14	..	..	89·48	8·35	89·06	6·64
40·35	37·40	88·70	..	86·00	20·17	91·68	30·50
59·02	57·74	99·05	8·69	96·61	12·64	95·97	41·33
66·10	·87	..	..	91·55	85·71	91·90	41·10
53·17	33·43	100·00	..	94·79	28·10	94·40	42·01
46·23	11·80	97·96	45·00	94·78	15·92	95·18	21·03
19·24	12·14	91·99	10·53	83·72	7·43	89·14	14·17
47·66	8·39	..	..	89·73	21·87	92·00	46·25
55·33	29·58	93·63	..	92·70	19·59	90·38	37·19
54·66	74·85	89·55	38·95	97·46	41·12	98·60	81·70
49·08	29·24	95·08	48·09	94·90	32·30	90·38	36·99
40·26	25·39	100·00	..	95·30	31·41	97·33	49·59
45·44	1·30	95·09	..	96·93	43·48	94·54	27·29
35·88	36·73	91·12	..	83·47	49·23	92·16	45·76
40·15	53·67	83·68	100·00	82·87	35·17	96·06	69·75
32·45	37·76	93·27	..	94·90	22·73	96·11	41·33
43·72	37·93	91·49	14·23	90·45	14·23	95·99	26·41
31·21	35·53	97·27	75·00	93·99	31·48	97·53	54·35
39·55	32·61	94·52	95·00	91·55	81·74	90·33	73·28
32·39	1·78	91·29	100·00	90·45	12·00	98·46	80·37
38·81	45·87	97·98	75·00	99·14	89·58	99·51	95·92
32·51	8·15	95·18	..	94·65	47·06	97·32	73·64
56·00	59·59	96·72	55·17	88·32	37·89	95·20	65·02
30·43	10·31	91·77	..	93·33	29·41	94·30	30·00
32·93	22·56	96·77	..	94·50	24·07	96·82	47·46
67·69	24·55	90·37	75·00	93·45	25·80	88·38	42·56
60·07	35·19	100·00	..	94·42	22·39	95·33	40·20
31·78	11·34	86·99	36·46	92·28	25·71	93·92	49·88
32·12	·36	83·31	63·64	91·39	..	96·13	44·48
51·77	27·42	93·36	40·14	97·16	27·85	94·83	56·22
59·65	23·25	98·92	66·67	95·66	23·33	96·14	46·92
43·41	46·52	76·41	92·86	86·45	18·68	96·41	83·01
77·87	13·96	95·93	..	95·68	70·97	96·93	92·62
39·31	46·36	95·17	31·18	96·36	31·39	95·94	55·81
41·36	12·93	97·39	..	96·72	56·50	98·26	85·80
44·37	6·84	95·35	33·33	96·54	71·43	96·49	78·88
50·19	15·13	97·46	36·00	97·42	75·69	97·41	79·05
67·99	15·79	99·71	76·92	99·09	78·63	98·47	88·91
31·06	25·27	95·77	33·33	96·46	30·24	96·32	54·96
36·81	11·98	99·08	..	99·15	57·33	98·65	63·15
28·06	9·00	98·38	57·14	94·63	13·72	97·47	73·59
41·29	27·99	94·64	32·51	92·50	31·58	95·06	47·92

VACCINATION APPENDIX A.—*Showing the number and ratio of successful
United Provinces for a*

Number.	Division.	District.	1921-22.				1922-23.			
			Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1922.	Ratio of deaths from small-pox per 1,000 of population in 1922.	Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1923.	Ratio of deaths from small-pox per 1,000 of population in 1923.
1	MEERUT.	Dehra Dun ..	4,438	24·14	..	..	3,765	20·22	3	·01
2		Saharanpur ..	27,873	31·24	4	..	29,938	32·73	15	·02
3		Muzaffarnagar ..	25,052	31·59	..	..	25,519	32·14	8	·01
4		Meerut ..	42,434	29·10	1	..	41,771	28·06	18	·01
5		Bulandshahr ..	35,840	34·23	..	..	35,616	33·85	69	·06
6	AGRA.	Aligarh ..	29,139	28·12	2	..	30,017	28·88	59	·05
7		Muttra ..	15,678	25·39	1	..	15,685	25·40	16	·02
8		Agra ..	23,191	25·32	1	..	24,003	26·23	52	·06
9		Mainpuri ..	18,096	24·22	..	..	15,774	22·07	..	..
10		Etah ..	22,934	28·27	4	..	23,902	29·47	10	·01
11	ROHIL-KHAND.	Bareilly ..	23,357	23·39	2	..	23,620	23·58	10	·01
12		Bijnor ..	18,753	25·63	4	..	19,232	26·13	2	..
13		Budaun ..	23,310	27·09	8	·01	25,739	26·47	4	..
14		Moradabad ..	27,279	22·85	3	..	29,049	24·29	19	·01
15		Shahjahanpur ..	20,073	24·15	1	..	19,753	23·96	..	..
16	Pilibhit ..	14,193	35·39	2	..	14,395	34·45	..	..
17	ALLAH-ABAD.	Farrukhabad ..	19,164	23·36	..	..	16,206	20·09	3	..
18		Etawah ..	16,513	23·89	1	..	16,933	23·81	1	..
19		Cawnpore ..	29,303	27·14	1	..	30,294	23·34	4	..
20		Fatehpur ..	13,748	21·47	1	..	13,762	21·73	..	..
21		Allahabad ..	29,152	21·06	50	·04	29,906	21·86	228	·16
22	JHANSI.	Jhansi ..	20,530	34·95	..	..	20,671	34·95	2	..
23		Jalaun ..	13,047	34·08	..	..	12,547	33·25	..	..
24		Hamirpur ..	13,839	33·38	1	..	13,690	34·11	1	..
25		Banda ..	15,203	25·63	1	..	17,286	29·54	9	·01
26	BENARES.	Benares ..	25,330	29·40	6	·01	21,123	24·22	7	·01
27		Mirzapur ..	21,370	29·80	20	·03	21,344	29·66	31	·04
28		Jaunpur ..	35,545	31·49	10	·01	35,962	31·87	17	·01
29		Ghazipur ..	13,657	16·60	9	·01	13,485	16·59	2	..
30		Ballia ..	21,147	25·85	1	..	21,084	25·75	6	·01
31	GO-RAKH-PUR.	Gorakhpur ..	70,990	21·77	32	·01	73,462	22·64	14	..
32		Basti ..	45,486	24·21	26	·01	50,252	26·69	1	..
33		Azamgarh ..	30,523	20·19	5	..	28,341	18·64	12	·01
34	KU-MAUN.	Naini Tal ..	6,126	27·18	12	·04	6,450	27·78	1	..
35		Almora ..	14,263	37·77	1	..	13,848	39·47	18	·03
36		Garhwal ..	11,200	46·03	2	..	10,408	40·90	..	..
37	LUCKNOW.	Lucknow ..	14,970	21·55	9	·01	15,634	22·48	15	·02
38		Unao ..	20,049	24·59	..	..	18,223	22·45	1	..
39		Rae Bareilly ..	18,264	19·70	2	..	18,803	20·18	45	·05
40		Sitapur ..	24,995	23·08	..	..	23,691	26·38	2	..
41		Hardoi ..	24,968	23·04	..	..	25,243	23·31	7	·01
42	FYZABAD.	Kheri ..	20,307	22·33	..	..	22,008	23·03	..	..
43		Fyzabad ..	17,563	15·74	1	..	20,499	18·49	3	..
44		Gonda ..	27,038	18·85	3	..	27,292	18·77	3	..
45		Bahraich ..	24,363	23·14	4	..	28,090	27·23	3	..
46		Sultaupur ..	32,310	30·11	2	..	32,704	32·60	4	..
47	FYZABAD.	Partabgarh ..	17,853	21·41	3	·01	16,261	19·64	19	·02
48		Bara Banki ..	22,415	21·77	1	..	21,243	20·64	3	..
Total ..			1,105,936	25·28	242	·01	1,119,578	25·56	747	·02
Total of Dispensary staff.			143	..	..	..	271	..	..	..
GRAND TOTAL ..			1,106,079	25·28	242	·01	1,119,849	25·56	747	·02

vaccinations and number and ratio of deaths from small-pox in each district of the series of 10 years—(continued).

1923-24.				1924-25.				1925-26.			
Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1924.	Ratio of deaths from small-pox per 1,000 of population in 1924.	Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1925.	Ratio of deaths from small-pox per 1,000 of population in 1925.	Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1926.	Ratio of deaths from small-pox per 1,000 of population in 1926.
4,005	26.43	17	.08	4,066	24.24	44	.21	4,091	33.20	28	.13
30,497	33.98	60	.06	31,494	35.01	100	.11	31,595	26.02	174	.18
26,597	33.56	54	.07	27,125	34.18	273	.34	26,285	34.31	124	.16
40,509	27.16	14	.01	44,300	29.94	413	.27	43,008	32.23	339	.23
33,781	31.95	11	.01	34,499	32.70	370	.35	34,427	32.78	780	.73
30,131	28.90	227	.21	31,160	30.32	991	.93	31,592	32.10	281	.26
15,837	25.65	64	.10	15,818	25.96	292	.47	14,171	25.04	114	.18
24,581	26.75	246	.27	27,250	29.79	428	.46	28,016	31.97	36	.04
15,017	20.19	21	.03	15,348	20.82	362	.48	15,197	21.20	112	.15
22,569	27.89	19	.02	24,934	31.02	276	.33	24,913	31.51	103	.12
24,510	24.44	198	.19	24,564	24.80	121	.12	25,594	26.55	165	.16
20,834	28.24	40	.05	21,064	28.16	678	.91	21,871	30.17	432	.58
23,060	23.85	36	.04	24,067	24.74	282	.29	27,835	29.56	789	.81
34,940	29.25	93	.03	37,655	31.51	815	.68	38,412	32.41	615	.51
20,984	25.12	31	.04	22,400	27.00	163	.19	23,406	29.54	113	.13
14,308	33.63	19	.04	14,830	34.81	98	.23	14,635	36.17	16	.04
15,017	18.95	29	.03	18,870	22.56	84	.10	20,941	25.71	506	.59
17,228	24.33	13	.02	17,415	24.53	63	.08	17,526	25.43	221	.30
30,724	28.43	158	.14	31,267	29.78	147	.13	30,898	30.27	127	.11
15,226	23.87	1	..	16,437	25.97	2	..	16,834	26.97	67	.10
27,758	20.44	221	.16	30,497	22.29	92	.06	30,070	21.71	327	.23
19,770	33.04	24	.04	21,156	35.17	106	.17	20,667	34.69	259	.43
13,136	34.09	4	.01	13,573	34.42	5	.01	13,321	35.32	49	.12
14,686	35.11	..	..	14,320	35.46	23	.03	13,925	36.00	102	.22
15,261	26.31	10	.02	15,594	26.62	33	.05	15,150	25.47	85	.14
21,075	23.87	63	.07	22,002	24.87	67	.07	24,755	(a) 28.69	677	.71
22,271	30.87	25	.03	22,677	31.43	39	.05	23,993	34.38	116	.16
31,789	27.69	79	.07	28,978	25.48	87	.07	29,525	25.91	257	.22
14,361	17.35	5	.01	14,161	17.07	46	.05	20,674	(b) 25.47	290	.37
20,511	25.37	6	.01	19,966	25.19	49	.06	21,822	28.69	421	.51
74,590	22.97	296	.09	79,515	24.53	661	.20	82,155	25.66	615	.19
51,221	27.11	62	.03	50,271	26.75	89	.05	51,224	26.97	115	.06
27,358	18.17	91	.06	31,302	20.65	132	.09	35,411	23.80	396	.26
6,706	26.00	4	.01	7,672	35.21	207	.75	7,512	48.83	52	.19
17,409	41.53	18	.03	19,138	52.35	152	.28	19,019	74.27	135	.25
10,728	37.91	16	.03	14,439	44.43	33	.07	16,872	54.37	29	.06
15,510	23.08	235	.32	15,372	24.51	513	.71	17,961	27.91	341	.47
17,611	21.96	8	.01	18,734	22.99	116	.14	19,501	24.00	126	.15
13,799	14.74	29	.03	14,733	15.83	294	.31	15,731	17.04	334	.36
30,686	28.19	46	.04	28,422	26.10	58	.05	29,361	27.37	71	.06
26,107	24.03	53	.05	26,603	24.55	174	.16	26,499	25.18	327	.30
23,921	26.42	..	..	22,718	25.10	35	.04	23,014	26.20	221	.24
22,708	19.56	17	.01	24,015	20.83	105	.09	24,632	21.97	501	.43
23,025	19.45	9	.01	29,660	20.45	97	.06	33,466	23.24	320	.22
32,889	31.31	21	.02	32,287	31.00	47	.04	33,340	32.47	145	.14
33,086	32.97	3	..	29,335	29.72	57	.06	28,461	28.74	160	.16
16,835	19.89	5	..	16,571	19.53	44	.05	17,685	21.29	323	.38
17,461	16.97	23	.02	20,267	19.70	9	.01	20,935	20.47	84	.08
1,127,423	25.57	2,724	.06	1,169,656	26.68	9,373	.21	1,207,978	28.59	12,020	.26
179	..	..	..	212	..	..	..	295	..	..	..
*1,127,602	25.57	2,724	.06	†1,169,868	26.68	9,373	.21	†1,208,273	28.60	12,020	.26

* In addition 336 successful primary operations were performed by military medical officers in cantonments.

† In addition 236 successful primary operations were performed by military medical officers in cantonments.

‡ In addition 426 successful primary operations were performed by military medical officers in cantonments.

(a) Rates calculated on average population 913,992

(b) Ditto ditto 819,609

VACCINATION APPENDIX A.—Showing the number and ratio of successful
United Provinces for a

Number.	Division.	District.	1926-27.				1927-28.			
			Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1927.	Ratio of deaths from small-pox per 1,000 of population in 1927.	Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1928.	Ratio of deaths from small-pox per 1,000 of population in 1928.
1	MEERUT.	Dehra Dun ..	4,261	28·16	33	·15	4,378	34·28	58	·27
2		Saharanpur ..	32,224	37·30	143	·15	33,630	38·70	13	·01
3		Muzaffarnagar ..	23,500	30·27	29	·04	25,893	32·72	65	·08
4		Meerut ..	39,697	27·46	16	·01	39,854	27·57	101	·07
5		Bulandshahr ..	32,919	31·68	62	·06	34,271	32·56	64	·06
6	AGRA.	Aligarh ..	32,883	32·47	26	·02	32,485	31·84	52	·05
7		Muttra ..	14,269	23·82	65	·10	16,711	27·58	12	·02
8		Agra ..	28,482	31·20	28	·03	28,911	31·79	100	·11
9		Mainpuri ..	14,889	20·71	11	·01	15,099	21·01	33	·04
10		Etah ..	24,123	31·86	60	·07	24,374	31·20	25	·03
11	ROHIL-KHAND.	Bareilly ..	27,186	27·24	131	·13	26,654	26·63	4	..
12		Bijnor ..	22,497	30·78	138	·19	20,653	27·98	78	·10
13		Budaun ..	24,800	26·13	71	·07	26,898	28·14	10	·01
14		Moradabad ..	37,900	32·24	63	·05	37,904	31·85	3	..
15		Shahjahanpur ..	22,686	28·51	119	·14	21,640	26·00	5	..
16		Pilibhit ..	14,322	33·95	7	·02	13,711	32·50	1	..
17	ALLAH-ABAD.	Farrukhabad ..	20,168	24·19	15	·02	21,754	25·95	5	..
18		Etawah ..	18,459	26·12	6	·01	18,422	26·10	17	·02
19		Cawnpore ..	32,275	31·07	38	·03	33,873	30·30	30	·03
20		Fatehpur ..	17,682	27·58	25	·04	17,076	26·60	2	..
21		Allahabad ..	31,991	23·21	573	·41	31,854	23·07	203	·14
22	JHANSI.	Jhansi ..	20,912	36·09	24	·04	21,712	36·48	20	·03
23		Jalaun ..	13,636	35·60	3	·01	14,022	35·82	3	·01
24		Hamirpur ..	15,435	36·49	2	..	17,111	44·59	..	..
25		Banda ..	16,017	27·94	73	·12	17,259	29·76	8	·01
26	BENARES.	Benares ..	26,284	30·55	417	·44	30,028	32·60	61	·06
27		Mirzapur ..	25,862	39·75	486	·67	25,759	39·98	155	·21
28		Jaunpur ..	30,177	27·46	261	·22	29,647	27·46	216	·19
29		Ghazipur ..	18,785	25·22	535	·68	18,295	26·10	206	·26
30		Ballia ..	24,363	30·12	221	·26	23,931	29·61	102	·12
31	GO-RAKH-PUR.	Gorakhpur ..	33,052	25·77	1,204	·37	113,487	35·06	207	·06
32		Basti ..	51,266	27·06	342	·18	50,840	26·62	24	·01
33		Azamgarh ..	35,975	24·46	1,027	·67	38,450	25·61	600	·39
34	KU-MAUN.	Naini Tal ..	7,477	40·41	14	·05	7,182	27·69	4	·01
35		Almora ..	16,999	51·62	47	·09	18,464	47·22	43	·08
36		Garhwal ..	15,592	53·61	39	·08	14,802	56·13	43	·09
37	LUCKNOW.	Lucknow ..	20,808	31·10	205	·28	20,209	29·35	184	·25
38		Unao ..	20,115	24·80	84	·10	21,584	26·54	8	·01
39		Rae Bareli ..	17,558	18·80	28	·03	20,309	21·70	18	·02
40		Sitapur ..	28,554	26·55	83	·03	29,581	27·31	20	·02
41		Hardoi ..	24,977	23·12	47	·04	27,109	25·06	17	·01
42		Kheri ..	19,932	22·65	50	·05	23,161	25·83	7	·01
43	FYZABAD.	Fyzabad ..	29,621	25·93	503	·43	23,956	25·73	67	·06
44		Gonda ..	33,836	23·70	80	·05	34,062	23·42	7	..
45		Bahraich ..	33,502	32·88	207	·19	35,869	34·28	8	·01
46		Sultanpur ..	29,945	30·06	122	·12	31,179	31·24	10	·01
47		Partabgarh ..	20,076	24·31	106	·12	21,672	25·98	84	·10
48		Bara Banki ..	21,513	20·98	25	·02	21,510	20·98	9	·01
Total ..			1,219,527	28·42	7,894	·17	1,282,325	29·45	3,012	·07
Total of Dispensary staff.			452	..	..	..	180	..	..	..
GRAND TOTAL ..			*1,219,979	28·44	7,894	·17	†1,282,505	29·46	3,012	·07

* In addition 326 successful primary operations were performed by military medical officers in cantonments.

† In addition 1,055 successful primary operations were performed by military medical officers in cantonments.

vaccinations and number and ratio of deaths from small-pox in each district of the series of 10 years—(concluded).

1928-29.				1929-30.				1930-31.	
Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1929.	Ratio of deaths from small-pox per 1,000 of population in 1929.	Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.	Deaths from small-pox in 1930.	Ratio of deaths from small-pox per 1,000 of population in 1930.	Successful primary vaccinations.	Persons successfully vaccinated per 1,000 of population.
5,018	31·71	13	·06	5,570	56·41	24	·11	5,558	38·47
33,835	33·06	111	·12	34,828	39·91	151	·16	36,489	40·78
26,724	33·96	186	·23	28,428	36·23	189	·24	28,899	36·76
45,329	32·47	891	·59	44,550	31·94	379	·25	46,062	32·15
35,239	33·85	1,285	1·20	37,907	36·62	453	·43	36,174	34·20
34,811	35·01	654	·61	32,880	32·64	82	·08	32,666	32·60
19,449	32·93	728	1·17	18,858	35·02	218	·35	18,157	30·77
30,464	34·45	1,024	1·11	30,187	33·70	89	·10	30,152	32·99
15,753	21·72	189	·25	16,682	22·89	133	·18	15,503	20·95
24,779	31·32	1,122	1·35	25,553	32·79	142	·17	25,648	32·22
27,369	27·35	185	·18	27,529	28·68	544	·54	27,188	28·25
21,392	29·08	1,061	1·43	22,054	30·26	703	·95	22,607	31·06
28,908	30·24	190	·19	31,077	32·48	1,066	1·09	30,563	32·47
38,893	32·79	694	·58	42,728	36·03	841	·70	43,321	36·40
19,853	25·80	219	·26	19,883	24·11	133	·16	20,901	25·35
13,925	32·53	89	·20	13,905	33·83	255	·59	13,139	31·19
22,226	26·47	54	·06	24,863	30·28	275	·32	20,945	24·81
19,282	27·32	131	·13	19,758	29·16	237	·32	19,872	28·52
34,371	33·21	195	·17	33,416	31·42	104	·09	29,565	26·97
17,541	27·26	38	·06	16,408	25·40	113	·17	18,990	21·77
34,024	24·68	202	·14	35,633	25·87	266	·19	33,631	24·72
21,899	36·44	40	·06	21,564	37·13	218	·36	20,601	35·79
14,224	37·04	61	·15	14,278	37·14	369	·91	14,565	37·18
17,302	39·32	1	..	16,427	38·66	45	·10	15,137	34·63
16,681	28·89	22	·04	16,077	27·67	124	·21	15,689	27·15
31,534	34·11	152	·16	31,577	34·85	631	·66	30,833	35·00
27,822	41·38	33	·04	29,308	42·59	45	·06	27,890	41·15
31,937	28·38	159	·14	31,996	28·77	260	·22	30,503	27·29
18,098	26·29	194	·25	20,827	28·54	915	1·17	20,468	28·56
25,027	30·99	153	·18	26,535	32·77	133	·16	27,268	33·80
115,298	35·55	107	·03	114,151	35·25	261	·08	98,816	30·46
50,848	26·62	47	·02	52,570	27·52	128	·07	51,528	27·01
38,515	25·60	229	·15	40,695	27·17	451	·29	41,214	27·31
7,374	33·71	21	·07	7,957	37·59	68	·24	7,197	34·61
20,852	49·88	32	·06	21,376	52·45	80	·15	20,556	52·93
16,679	57·85	26	·05	19,079	60·26	20	·04	18,153	58·98
21,217	30·36	463	·64	21,812	21·25	41	·06	20,149	28·59
22,796	27·93	116	·14	23,460	23·83	37	·04	21,401	26·29
29,105	31·14	48	·05	31,691	33·88	25	·03	32,744	35·18
30,249	27·99	37	·03	30,967	28·69	70	·06	30,746	28·32
28,740	26·52	212	·19	28,646	26·44	127	·12	25,825	23·83
22,852	25·37	23	·02	22,870	25·45	17	·02	23,110	25·54
28,754	25·53	180	·15	29,503	26·01	337	·29	28,663	25·35
37,794	25·89	16	·01	37,441	25·96	39	·03	39,520	27·56
36,628	35·41	3	..	37,227	36·39	23	·02	38,109	36·68
32,690	32·68	21	·02	35,405	35·39	82	·08	35,891	35·94
22,338	26·70	46	·05	22,937	27·63	87	·10	22,995	27·69
26,611	25·93	22	·02	25,869	25·16	36	·03	26,179	25·47
1,342,549	30·89	11,725	·26	1,373,942	31·79	11,071	·24	1,336,837	30·74
167	..	..	..	430	..	..	..	621(a)	..
*1,342,716	30·90	11,725	·26	†1,374,372	31·81	11,071	·24	†1,337,508	30·77

* In addition 820 successful primary operations were performed by military medical officers in cantonments.

[illegible]

(a) Includes figures for Railway dispensaries.

VACCINATION APPENDIX B.—*Showing the number of vaccinations performed in the municipal towns of the United Provinces on children under one year of age during the year 1930-31.*

Serial number.	District.	Municipality.	Number of births during 1930.	Number of deaths amongst children under one year during 1930.	Number of successful vaccinations on children under one year during the year ending March 31, 1931.	Date of extension of Vaccination Act to the municipality.
1	2	3	4	5	6	7
1	Dehra Dun	Dehra Dun	1,474	380	1,075	May 14, 1891.
2		Mussoorie	170	39	203	Ditto.
3	Saharanpur	Saharanpur	3,745	1,188	1,658	April 28, 1892.
4		Hardwar Union	1,252	369	980	April 5, 1892.
5		Deoband	1,091	275	678	June 7, 1894.
6		Roorkee	572	167	313	August 7, 1891.
7	Muzaffarnagar	Muzaffarnagar	1,332	247	924	December 21, 1892.
8		Kairana	821	153	641	June 7, 1894.
9	Meerut	Meerut	2,814	456	2,076	March 12, 1891.
10		Ghaziabad	663	91	357	June 7, 1893.
11		Hapur	1,138	223	614	October 16, 1894.
12		Baraut	356	58	243	March 5, 1924.
13	Bulandshahr	Bulandshahr	966	200	579	July 16, 1891.
14		Khurja	1,455	370	884	June 28, 1894.
15		Sikandrabad	928	220	717	April 16, 1894.
16	Aligarh	Koili	3,250	696	1,836	November 24, 1891.
17		Hathras	2,110	622	1,402	May 4, 1894.
18		Atrauli	781	163	593	December 21, 1892.
19		Sikandra Rao	547	164	396	Ditto.
20	Muttra	Muttra	2,891	780	1,830	October 5, 1891.
21		Brindaban	592	193	370	August 6, 1891.
22	Agra	Agra	11,830	2,407	4,161	June 5, 1891.
23		Firozabad	942	177	716	Ditto.
24	Mainpuri	Mainpuri	197	53	275	June 15, 1891.
25	Etah	Etah	540	153	315	May 6, 1891.
26		Soron	675	207	411	Ditto.
27		Kasganj	1,039	211	686	Ditto.
28		Jalesar	642	192	399	Ditto.
29	Bareilly	Bareilly	5,902	1,135	3,517	August 17, 1891.
30	Bijnor	Bijnor	1,015	231	490	July 3, 1891.
31		Obandpur	698	170	475	July 6, 1891.
32		Dhampur	467	104	283	April 16, 1894.
33		Nagina	1,169	314	503	July 6, 1891.
34		Najibabad	1,063	248	662	Ditto.
35	Budaun	Budaun	2,104	556	1,351	July 29, 1892.
36		Ujhani	594	125	348	July 1, 1891.
37		Sahaswan	963	247	549	July 3, 1891.
38	Moradabad	Moradabad	5,196	1,158	3,478	December 19, 1892.
39		Chandausi	1,331	313	626	March 9, 1893.
40		Amroha	2,514	554	1,416	Ditto.
41		Sambhal	2,488	598	1,396	April 1, 1893.
42	Shahjahanpur	Shahjahanpur	3,442	753	1,585	September 14, 1891.
43		Tilhar	1,035	305	552	January 2, 1892.
44	Pilibhit	Pilibhit	1,783	634	940	July 9, 1891.
45		Bisalpur	545	178	242	April 25, 1892.
46	Farrukhabad	Farrukhabad-cum-Fatehgarh.	2,728	921	1,093	June 5, 1891.
47		Kanauj	712	144	413	September 16, 1921.
48	Etawah	Etawah	2,449	860	1,533	November 15, 1889.
49	Cawnpore	Cawnpore	9,347	2,821	4,795	August 1, 1888, December 11, 1888 and August 7, 1891.
50	Fatehpur	Fatehpur	861	259	487	June 4, 1891.
51	Allahabad	Allahabad	7,377	1,939	3,554	May 2, 1891.

VACCINATION APPENDIX B.—*Showing the number of vaccinations performed in the municipal towns of the United Provinces on children under one year of age during the year 1930-31—(concluded).*

Serial number.	District.	Municipality.	Number of births during 1930.	Number of deaths amongst children under one year during 1930.	Number of successful vaccinations on children under one year during the year ending March 31, 1931.	Date of extension of Vaccination Act to the municipality.
1	2	3	4	5	6	7
52	Jhansi	Jhansi ..	3,191	1,204	1,656	July 1, 1891.
53		Mau ..	647	298	360	May 5, 1892.
54		Lalitpur ..	528	153	412	May 24, 1894.
55	Jalaun	Orai ..	534	146	370	July 22, 1891.
56		Kalpi ..	476	140	376	December 5, 1892.
57		Konch ..	661	209	610	May 14, 1891.
58	Banda ..	Banda ..	403	121	373	March 24, 1893.
59	Benares ..	Benares ..	10,177	2,768	3,122	April 10, 1891.
60	Mirzapur ..	Mirzapur-Bindhachal	2,647	504	1,714	October 9, 1891.
61	Jaunpur ..	Jaunpur ..	1,197	263	831	February 26, 1892.
62	Ghazipur ..	Ghazipur ..	911	172	439	May 4, 1893.
63	Ballia ..	Ballia ..	461	60	305	May 6, 1891.
64	Gorakhpur ..	Gorakhpur ..	2,686	650	1,676	January 18, 1893.
65	Azamgarh ..	Azamgarh ..	556	121	228	February 8, 1893.
66	Naini Tal	Naini Tal ..	324	65	103	June 1, 1891.
67		Kashipur ..	519	111	233	May 5, 1894.
68	Almora ..	Almora ..	298	52	168	March 9, 1893.
69	Lucknow ..	Lucknow ..	8,794	2,897	3,766	February 4, 1893.
70	Unao ..	Unao ..	474	97	233	March 13, 1890.
71	Rae Bareli ..	Rae Bareli ..	711	216	494	June 1, 1891.
72	Sitapur	Sitapur ..	1,043	277	502	July 27, 1891.
73		Khairabad ..	555	130	339	April 12, 1892.
74	Hardoi	Hardoi ..	484	111	195	March 26, 1891.
75		Shahabad ..	687	133	329	March 17, 1892.
76		Sandila ..	767	275	497	January 2, 1892.
77	Kheri ..	Lakhimpur ..	445	75	315	June 1, 1891.
78	Fyzabad	Fyzabad-Ajodhya ..	1,319	342	928	June 11, 1891.
79		Tanda ..	895	243	573	July 18, 1891.
80	Gonda	Gonda ..	646	206	318	June 25, 1891.
81		Balrampur ..	720	155	446	Ditto.
82	Bahraich ..	Bahraich ..	1,060	224	840	December 5, 1892.
83	Sultanpur ..	Sultanpur ..	343	86	219	November 11, 1884.
84	Partabgarh ..	Bela ..	234	43	215	June 1, 1891.
85	Bara Banki ..	Nawabganj ..	518	92	231	December 2, 1889.
		Total ..	146,507	37,675	79,102	

